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INTERMEDIATE NEWS NUMBER,

DEVOTED TO

ASSOCIATION AND BUILDING NEWS.

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Special Notice.

THE fifth annual convention of the Western Association of Architects will be held in Chicago on November 21, the third Wednesday in the month. Special attention is called to the date, as the date before published was incorrect.

An exhibit of drawings will be a feature of the convention, and though the official announcement has not yet been made, architects should immediately make preparations to send perspectives, photographs, etc., of their executed work. The publishers of THE INLAND ARCHITECT have established a department for the execution of line and watercolor perspectives.

AT a meeting of the Board of Directors of the Western Association which was held in Chicago, October 23, a general outline of a report to the convention was made. A general committee on rooms and entertainment was appointed. There were present: John W. Root, Samuel A. Treat and J. J. Flanders, of Chicago; George B. Ferry, of Milwaukee, Wis., and J. F. Alexander, of La Fayette, Ind. The board agreed to recommend the election in a body of the members of the Western New York State Association of Architects under the old rule of the association because of the unusually high character of the architects composing that association. The board will also suggest that a permanent place of meeting for the association be determined upon; that the term of office of secretary be made three years, and that blank certificates of membership, to be filled out annually, be issued. The board will also call attention to the fact that the most important matter to be discussed is the question of consolidation of all architectural societies and advise a conservative course in regard to new measures until this is decided. The general committee on rooms and entertainment will consist of John W. Root, J. J. Flanders and Samuel A. Treat. An effort will be made by them to secure a convention hall in the hotel which may be selected for the headquarters of the members. Full particulars will be published, as far as completed, in our regular edition for November.

THE meeting of the Western New York State Association of Architects, on October 16, was a remarkable one in the history of state associations. Out of a total membership of fifty, but eleven were absent from the convention, and the personnel of the members was such as to strongly impress the members of the American Institute with the important character of the state organizations formed under the Western Association. The first year's work of this state association has been phenomenally complete, and the recognition of the high character attained by the association by the Board of Directors of the Western Association in recommending them to acceptance to membership in a body is a legitimate reward.

THE twenty-second annual convention of the American Institute of Architects at Buffalo, October 17, 18 and 19, was marked by able reports by committees and prompt and incisive discussion by the members. In our haste to get the proceedings of this meeting before the architects of the country we cannot give the calm consideration necessary in expressing opinion upon the weighty questions discussed. This will be left to a future number; but each architect, especially those who belong to the Western Association or any of the state associations, should read the proceedings carefully. Attention is particularly directed to the discussion of the report of the committee upon consolidation. It is given in full for this purpose, and after reading, each member should decide to let no business, however important, keep him from attending the Western Association convention on November 21. A word of commendation should be spoken in regard to the admirable way in which the Buffalo architects arranged for and carried out the reception and entertainment of the Institute. While all did their part in contributing to this end, it is but justice to mention the name of W. W. Carlin in this connection as the prime mover and most energetic worker in all the arrangements. His practice is large and his private interests many, but these were all made subordinate to the desire that the meeting of his state association and that of the Institute should be in every way a pleasure and benefit to those attending.

Observations on Heavy Buildings.*

BY R. W. GIBSON, ARCHITECT, NEW YORK.

WHAT is a heavy building? It is certainly no new thing. The world is dotted with them so freely that in abundance of human interest they rival the works of nature. But architecture changes as times change. Each age has its character, which is recorded in its buildings more inevitably and more permanently than in anything else. The ambitious efforts of the eras of military conquest and the monumental expressions of those of religious enthusiasm, are written clearly in the wrought stone of the old edifices which are our inheritance. And these are not undervalued. We still experience the same emotions and passions, and express them, more or less ably, in the same materials. We still build towers and cathedrals and tombs. And all these might come, in a general way, under the title of this paper.

But there is now a new order of things. This is the epoch of industrial enterprise. Let us consider for a little time this newer work we are doing. We are not in the habit of looking far into the past for guidance in the scientific department of our labors, however often we may grope there for artistic inspiration. And this is because most of what we do is new. The architects of ancient times have raised thousands of tons of marble in majestic beauty; that was their aim and object in building, and all else was subordinated to it. We are called upon to deal with equal or greater structures; with certain additional demands of utility and economy, which would have rendered the task impossible to masters of olden times. The stately buildings of this class, which tower over the streets of our modern cities, are loaded with tier upon tier of spacious chambers; they are permeated with countless flues and ducts and wires, and made alive with machinery vibrating with enormous power. And with all this, the walls upon which they are upheld must be pierced with innumerable windows and doors, so that the light of day and swarms of busy workers or luxurious residents and their attendants, may have free access, even to the basements and cellars. These tiers of floors must often support enormous loads of merchandise or machinery, or of human beings. And lastly, the structural materials must be not only incombustible but, as far as possible, fireproof.

Under these conditions we find that our work is, in truth, of a new order of things. And in that new order ideas develop rapidly. The most daring conceptions of one generation become the commonplace thoughts of the next. Accumulated experience reduces to method all those theories which are found worthy of it, by the tests of practice. And the quicker we can evolve these methods and formulate their rules, the easier our progress and the freer our course to the next stage, wherein new problems await us. Therefore, one of the tendencies brought about by the need for these heavy buildings is toward mutual assistance, a careful observation of what others are doing.

There is undoubtedly too little attention given to the process which may be called the analysis of contemporary art. In the earnestness of individual work there is too much isolation and independence. The man who discovers says nothing of his thought, and each one of us explores and re-discovers the same truth. And, indeed, there is a harmful impression that the rule of originality should be interpreted to debar the adoption and repetition, even of a good principle, so that what is done in this direction is to some extent disguised and apologized for. It was not thus that the old-time heroes in our craft worked. From the time of the pyramids down to that of Renaissance, the schools were more evident than the individuals; and whether by master or pupil, the work shows subordination to accepted codes. From these undisputed principles individual labors toward perfection commenced, at a stage higher than that at which many now terminate.

It was by this collective knowledge the Greeks carried refinement of detail to its height. And (to go from one extreme example to another) it is by the power of the same method—the acceptance and adoption of certain unoriginal but established types—that the designers and builders of the least educated class among us are enabled to erect fairly satisfactory structures of many storied and complex arrangements, such as the cheaper flat and tenement buildings of New York City. We will not overlook the imperfections of these buildings, nor will we mention them as worthy of imitation, but they do teach the lesson of coöperation and collective experience which enables work to be done by men, not one of whom independently and originally would be competent to do it. The diversified character of buildings of the higher order may lessen the opportunity for this evolution of their design, but it does not preclude it. There is enough of it evident to show the need of more. Much has been said and written of late, especially in Europe, about a modern style of architecture. The nearest approach to it is without doubt shown in modern American business buildings, and if the best specimens by the acknowledged leaders in our art are compared, it will be seen that sometimes unconsciously, even unwillingly, they follow more or less perfectly the same methods. Heavy buildings of this class promise to compel by their limitations uniformity of design which almost amounts to a style. In order to discover the laws of this style, let us then examine practically the circumstances in which they originate. Scientific design proceeds upon past experience by continuing or adopting successful features and avoiding known faults. What, then, are the successes and faults in recent heavy buildings? It is understood that fireproof buildings of many stories are more particularly referred to.

Despite all that has been learned and written upon the subject, the great difficulty of unequal settlement is the chief cause of faults. I speak of the settlement by compression of the soil upon which a building stands. It is a curious fact that much of the most valuable and densely covered building land in the world is notoriously bad. Many of the heaviest buildings stand on soft, yielding soil. The lower part of New York, with quicksands, silt and mud; Boston, with its districts of made ground where tidal water used to ebb and flow; Chicago, with its lake shore alluvium and wet sand, all furnish examples of this. Among older sites Pisa, whose leaning tower has puzzled so many dilettanti into fanciful fiction, and Venice and Antwerp and London may be mentioned, the last including large areas of the blue clay of the Thames basin. The commercial origin of their prosperity accounts for it. Where the ships came the cities grew, and there the architects were set to work. Sometimes other causes prevailed; as for example at Albany, where the New York State Capitol stands upon a hill of clay. But this same clay, when it lies with its natural stratification unbroken, is, in the writer's experience, found to be a better soil than is generally supposed.

But let us not linger upon subjects already extensively discussed. These compressible soils, it is well known, must be built upon with equalized loads. The law may be accepted as established, that each square foot of base of pier and wall must bear with an equal pressure in order to secure an equal settlement. But we may still look around us and see faults which this doctrine was to banish. This subject was chosen because of the discovery by the writer, in a series of examinations of modern buildings, of the fact that unequal settlements abound. And here are some of the reasons: We calculate the load upon our girders, columns, walls and piers, and we say, for an example, column C in a ten-story building has a base, bearing three tons per superficial foot, and wall W X a base expanded to give the same pressure. Wall W X we will assume to be a side wall, in a building not on a corner. The structure is finished and occupied, and the wall W X slowly and irresistibly takes its half inch, or inch, or more, of settlement, squeezing down the soft soil despite all preliminary ramming or other preparation. This we expected. But why are the floor levels disturbed, and why those little cracks in the front lintels and sills, if all has settled together? It is somewhat disappointing to look about and see how many sills and lintels betray this fault of unequal settlement, by a crack close to one end — just the bearing end broken off. Inside the building the columns in several places appear to have lifted. It has been argued that the brick and mortar was compressed in its numerous joints, while the iron of necessity is not perceptibly changed. This is true, but not to the extent now in question. Let us look at our calculations again. The wall is all right. So many feet, so many tons. The columns so many feet of iron, so many feet of floor, weighing, perhaps, 70 lbs. per foot — so many feet of floor loads at 150 lbs. per foot — here we have the error. We may say it is not an error, but anything is an error which produces bad results unexpectedly. The floor loads are not there. The mason work is on the wall base in actual fact. But the load of 150 lbs. per foot is on the floors only in theory, and the column foundation which we assume to support, say 360 tons, has actually only 180 tons. What wonder that there is trouble. And the front — where the girder ends rest upon the front piers, as they usually should do, the same thing occurs in a lesser degree. There is a larger proportion of mason work in the calculated load, and only one girder instead of two, but the difference here even, amounts to, perhaps, 100 tons. What can be done? Custom based upon knowledge requires that each floor shall be equal to a safe load of 150 lbs. per foot. In New York City the law requires this for a fireproof office building, and further, that the columns shall be safely equal to the total of all the floors upon them at the same rate. This would seem to be unnecessary in many cases. In each floor an excessive strength is demanded to guard against contingencies, such as the movement of heavy safes or the possible use of some floors for storage. But on all the floors together, a fair average is permissible, because the average is always naturally maintained by reason of the number and variety of the different stories. The columns we may, however, accept in compliance with the laws and customs. The excess is not harmful. But in the foundations we have seen that is positively injurious. The laws, recognizing the impossibility of the task, usually leave the arrangement of this part to be done according to circumstance, except that they stipulate a minimum, applicable to good soil, which does not approach the necessities of the case under consideration.

The foundation of columns should be equalized with those of walls, upon a basis of liberal, but not excessive, average of floor loads, say 50 or 60 lbs. per foot besides the weight of the floor material. This could not possibly be surpassed in an office or apartment building. It is the weight of a crowded seated audience on every floor at once. It is an allowance of 10 or 12 tons of load in an office or apartment, 22 by 18 feet. If some floors could possibly be loaded more heavily others would certainly carry less. Let us work according to these facts and while we may still expect a few cracked ends of lintels the difficulty will assuredly be lessened. It is, therefore, evident that while excessive strength is a harmless precaution in the actual structure, yet a true calculation is necessary for foundation areas.

Next let us give some further attention to the front. There is a natural set of dimensions, arising from limitations and requirements, in these buildings which leads us all far sometimes, in similar paths. The stories (excepting the first) are usually required about 11 or 12 feet high. The girders, 15 or 16 feet apart, in order to use convenient spans of beams and floor arches, and the limits of the bearing of girders will be naturally 20 to 24 feet. If the building is so wide as to demand columns the girders will preferably be placed running from front to rear, because first, the side walls and foundations, with few or no openings, are in themselves extremely heavy; while the front and rear walls with numerous windows, are lighter; and secondly, because the homogeneous side wall is more adapted to receive the distributed floor beams, while the front and rear walls, already divided into piers and openings, are better fitted for fewer concentrated weights. The windows will be required about four or five feet wide, with piers of three or four feet between or perhaps the openings rather less and the piers or walls more, according to the purpose of the building. This agrees very well with our spacing of girders except that two windows come to each division. And here we have the motive for the design of three-fourths of our modern heavy buildings. The two windows are combined and the pier carrying the girder increased, while the other is lessened. The heavy construction, of course, compels openings to be placed in perpendicular lines, except in the uppermost stories. So far so good, but now arises another difficulty which has been abundantly

*A paper read at the twenty-second annual convention of the American Institute of Architects, at Buffalo, October 18, 1888.

studied. The intermediate pier is often carried up from the same foundation (usually continuous under such a front) which carries the main piers. These latter with their enormous loads, perhaps 400 tons each, compress the soil calculated, but the foundation, laid continuous, does not remain so. The part loaded goes down, the part under the windows remains where it was placed and the intermediate columns, whose comparatively little weight rests upon it, do as it does, all the way up, the front is slightly distorted and lintels are cracked. When the writer first began these observations, the cracks in the lintels were rather puzzling. There seemed to be in many cases no apparent cause. The fact is it takes very little unevenness to produce a crack. The force is irresistible and the lintel is a small stone. A good precaution is to give it only so much bearing as is necessary, so that there is less of the end held in the vice-like grip; with stone resting on stone three inches is enough, and many bands, sills, lintels, etc., have 8 or 9 inches running into the pier. If the building is thus more flexible it will not show these movements at such a trifling stage. But let us go to the root of the evil. Shall we hold down that lighter portion of the continuous foundation and compel it to go all together? And if so, how? The inverted arch is the first thing likely to be called for. It is a doubtful aid for this purpose. If used it should be of ample rise, or rather drop, and a pointed or Gothic form would be best. In a wall with a good depth of masonry below it, the arch is no doubt good. It does not take the whole load of its span. But down actually at the bottom next to the concrete, an inverted arch must be loaded with about 2½ tons to the superficial foot of base. Think of this enormous load. Turn the arch the other way up and think of it. It is, perhaps, 6 feet wide, the base is perhaps 10. That makes it loaded with 24 tons per feet of length if considered as a bridge. The thrust is enormous. Imagine the girder necessary to do this work. If it does not do this work it will not compress the soil as we demand of it. Suppose we lessen the load by reducing the width. Practically this almost amounts to giving up the continuity of the base crown. This will be sometimes a gain, especially if the piers are far apart. Or the great piers may have side footings which meet at the foot of the small ones on the base course; those on the other faces being proportionately less. Then if the great piers are equalized the small ones will be carried down by them. But a flat inverted arch will do more good than the slab of concrete or the base course of granite. Brick work and concrete must be considered as possessing no transverse or beam strength under these loads. They will resist pressure, and will spread it at an angle of about 25 degrees from the perpendicular, no more. And the batter of the offsets, or the cord of each half invert, should be at about this angle. There are granite bases to be seen whose offsets equal their height in which an apparent tilt upward has resulted from the failure of the masonry to carry the pressure out at so great an angle.

But the true way to make our light intermediate piers go down with the heavy main ones, is to build them upon girders or arches resting upon the latter. Then even if the great piers differ in settlement, the smaller will maintain their proper intermediate position. It has been assumed that a front entirely of masonry was in question. This is undoubtedly a higher grade of architecture than that in which iron is freely used. Sometimes we see the main piers of mason work carried up with the intermediate piers and other parts entirely of iron, each floor carrying its own tier. This is good in the main, but it misses many of the best opportunities for design, and is of necessity monotonous. Sometimes the iron features are grouped two or three stories together under the arches of masonry. This is better; the stone construction is more complete, and the iron subordinated to it. And other things being equal the use of masonry throughout will undoubtedly produce the greatest dignity of effect. Now we have reached the point in the argument where æsthetic ideas are invited to take their place. Here are encountered the facts, upon which it is submitted the modern style is founded. Yet the constructive and the artistic are, as they should be, so closely linked, that we must not attempt to consider them apart. We have traced the development of the achievement of an equal foundation; now for the superstructure. The superintendent of the New York building department once said (if the veracity of a New York reporter may be trusted), "that the commonest error in construction, was that of making columns and piers too big above, and too small below." He referred, no doubt, to the class of designers before alluded to, whose skill is perceptible only when collected into a sort of joint stock of that commodity. But the same charge, in a lesser degree, could be made against some buildings of the first class. An intermediate column, or pier, supports the lintels and the sills of the next story above, and then comes another similar column, and so on to the top. This is all very well for two or three stories, because the smallest desirable column will be competent to that extent, and because the uniform size of windows suggests equal columns, but if six or eight tiers are so raised, it becomes questionable and monotonous. The single girder, too, has to be made very strong to avoid perceptible deflection, as it is loaded in the center. To meet this objection another improvement is developed. The two or three stories, for which the superimposed columns are proper, are so designed, and then a new girder is introduced, with, perhaps, for variety's sake, one story entirely open, immediately under it, and the intermediate columns again above. In this way we get the numerous tiers of floors and windows reduced to groups. Now we all know how certain critics of the last generation have protested against the grouping of stories, as in the Palladian style, condemning it as untruthful and unconstructive. Yet there has been an instinctive reluctance to abandon it, and we may be assured that any persistent instinctive feeling of this kind is based upon some reason, although that reason may not be readily discoverable. In our modern construction, carried to a high degree in the differentiation of parts, we find these reasons which were not evident in lesser works. Another piece of construction, called false by some critics, is reached here too. That is, the use of an arch, or stone lintel, at certain levels, with a girder behind it or over it, which it is said does all the work. It is true the girder does the work of sustaining the load, and as a tension member, to tie the piers supporting it. But the arch has its duty also. It is a most effective means of holding the piers apart, resisting any tendency which they may develop to close inward, and as it carries no weight but its own its thrust is abundantly met by the ties and the mass of the piers, and an equilibrium of great strength is maintained. And for this same stiffening effect, as well as for æsthetic reasons, a story may be introduced in one or more places which deals with the front as a whole, not as piers and lintels, but as a wall of the full thickness with openings through it. Pleasing contracts may be obtained by dividing certain sections into three windows instead of two, and this without any imperfection in structure. The skyline is sometimes broken by gables or dormers, and sometimes as severely horizontal as a Roman might have designed. Either method is permissible, and the authors of this style are not afraid to use the simpler motive when circumstances require. Then the lack of light where it is most needed, namely, on the ground story, often prompts the placing of the first main arch or lintel over this or even over the second floor instead of the foundation. Lastly, the monotony of the equal stories is varied by collecting them in unequal groups. Thus we arrive at the fully developed phase of a most simple and dignified composition, for the front of a modern heavy building of the commercial class—which is, to sum up—a façade of many stories divided horizontally into a few main groups. These are contrasted in proportions by including one, two or three floors. The vertical elements are widely spaced, continuous main piers, forming openings subdivided by small piers discontinuously, in the different groups.

This analysis of some of the motives of modern design and the construction from which it arises, reveals the close relationship of all the best work of this class, however varied in treatment of detail. Its truths are alike expressed in the Romanesque work, which is so fast growing in favor throughout the country; in the scholarly Renaissance of New York, and in the more free arches of Chicago. The principles are the same, and the necessities; and the solutions of the problem, by different heads and hands, have that in common which constitutes a new school of architecture, and which, with the prevalent able, strong treatment of the noble, round arch, promises to establish a national style. Already it is begun, and we have a right to expect more of the future than we have received of the present.

Memoir of Thomas Ustick Walter, A.M., Ph.D., LL.D., F.A.I.A.*

BY GEORGE C. MASON, JR., F.A.I.A.

THOMAS USTICK WALTER, second president of the American Institute of Architects, was born in the city of Philadelphia, September 4, 1804, and died in the same city, October 30, 1887, being, at the time of his decease, the oldest practicing architect in the United States.

He was the son of Joseph S. Walter and of Deborah, his wife, and was named after the Rev. Thomas Ustick, a well-known divine during the early years of the present century.

In boyhood, Mr. Walter displayed a predilection for mathematics. His education was liberal, but not scholastic. In 1819, being then fifteen years of age, he entered the office of William Strickland, the architect of the custom house, the mint, the merchants' exchange and marine asylum, and other buildings in Philadelphia, and of the state capitol of Tennessee, in Nashville, within which structure he is buried under a suitable monument. From his own writings, it is learned that Mr. Walter remained with Strickland until he had acquired the art of linear drawing, and a general knowledge of the profession of architecture, after which he resumed his general studies, and went through an elaborate course of mathematics. During seven years he devoted himself to the study of physical sciences, to the cultivation of the arts of drawing and painting, and to the attainment of practical knowledge of the several branches of mechanical construction, while at the same time, in his moments of leisure, he studied landscape painting in water colors, under the direction of Wm. Mason, a celebrated teacher of that art in Philadelphia.

In 1828 he again entered Mr. Strickland's office, devoting himself exclusively to architectural study, the practice of which he commenced in 1830, and in the following year designed the Philadelphia county prison, which was his first important work, his plan for same having been adopted and the construction of the work intrusted to his care.

In the year 1829 he was elected a member of the Franklin Institute of Pennsylvania, and subsequently was elected one of its board of managers, and in 1846 was chairman of the board. Mr. Walter's interest in the Franklin Institute was manifest from the first, and he entered heartily into its councils and discussions. At this early date the public taste for correct architecture was wholly undeveloped, but he worked and argued for the advancement of his art. This enthusiasm bore fruit, and in 1835 it was voted "that a course of lectures on architecture, delivered annually before this society, is indispensable, as well to accomplish the ends as to promote the prosperity of the Franklin Institute; and that it is hereby recommended to the board of managers to secure the delivery of such a course next winter." The times were not altogether propitious for the establishment of a regular professorship, but at the beginning of the next year, Mr. Walter was requested to deliver voluntary lectures. These lectures he continued to give from time to time, and his name appears in the Journal of the Institute, to which he frequently contributed as "Professor of Architecture."

He fully appreciated the dignity of his art, and from the first his pen and his public utterances all tended to one end—its elevation and the cultivation of high aspirations among its practitioners. Thus, in 1841, he writes: "If architects would oftener aim to think as the Greeks thought, than do as the Greeks did, our columnar architecture would possess a higher degree of originality, and its character and expression would gradually become conformed to the local circumstances of the country and the republican spirit of its institutions." Among the articles in the journal, which appeared from his pen during these years, may be enumerated the following: "Architecture in the Middle Ages"; "Formation of an Artificial Spectrum"; "Order of Architecture"; general articles under the

* Read as a committee report before the twenty-second convention of the American Institute of Architects, at Buffalo, October 18, 1888.

head "Architecture"; elaborate reports and descriptions of the designed construction of the County Prison and of the Girard College (which he was then building from his own designs), besides numerous other articles.

Mr. Walter's professional practice rapidly increased after his design for the "Girard College for Orphans" was adopted in 1833, the cornerstone of which building was laid on July 4 of that year. When the structure was complete, in 1847, he was elected one of the Board of Directors of the college, and served in that capacity for three years. In 1838, the building committee of the college sent Mr. Walter to Europe for the purpose of "examining the practical workings of the various devices and appointments for health, convenience and comfort, in the principal seats of learning in Great Britain and the continent," with a view to derive such information on these subjects as would be likely to prove useful in fitting up and furnishing the building of the college.

We must now refer to an event which advanced architectural development and was the beginning of systematic and united methods of architectural practice in the United States, namely, the attempt, in 1836, to found an "American Institution of Architects." At that time there was only a little over a half score of properly trained architects in the country. These gentlemen met in the city of New York on December 7, 1836. Mr. Walter was one of the pioneers and most active promoters of the movement, and of the group of architects who met on that day, one alone remains, Alexander J. Davis, the architect of the University of the city of New York and of many other important edifices, and now a corresponding member of this Institute. A draft of a constitution was formulated, and the members adjourned to meet in Philadelphia on the first Tuesday in May, 1837. The circular calling for this meeting, dated March 23, 1837 (a copy of which interesting document hangs in the office of the Institute in New York), was signed by Thomas U. Walter, secretary.

The meeting took place at the Pennsylvania Academy of Fine Arts, but it embraced only a handful of members, and it was found that they were too much scattered for mutual sustenance and the strength necessary for a brotherhood.*

The "Institution" struggled for a while, flickered, and was apparently quite extinguished, though it was really from its ashes that our present Institute, Phœnix-like, sprung.

Mr. Walter's position was soon assured, as his merits were appreciated by numbers of influential citizens, who rewarded him with their patronage by confiding to him the designing and construction of noble works, built in the pure Classic style, of which he was the most strenuous advocate and enthusiastic student.

In the early days of his successful practice, it was generally the custom in Philadelphia to have the dwelling and office of architects in the same building, or adjoining each other, and thus there was a more intricate and friendly acquaintance between the students and the preceptors' households than in these times. Mr. Walter was always affable and kind toward his students, and always took pleasure, during his leisure moments in the office, in lectures to them, and imparting knowledge in practical and æsthetic subjects, but although he had many during his early career, most of them lacked the patience and perseverance necessary to acquire the requisite knowledge to become successful practitioners, and eventually drifted into other pursuits.

Among Mr. Walter's works of private practice may be enumerated the St. George's Hall, the Preston Retreat, the Debtor's Apartment, the Philadelphia Savings Bank and several churches in Philadelphia, the Chester County Bank, the Biddle and Cowperthwaite villas on the Delaware river, and other buildings in the country.

But all these creditable labors were but the training and leading up, as it were, to the one great work with which his name must ever be associated —the extension of the National Capitol at Washington, together with the noble dome which surmounts and dignifies its mass.

The appointment of Mr. Walter as architect to execute his design for the extension of that truly noble building, was made by President Fillmore, in 1857. It was well merited, for, of all American architects of that date, Mr. Walter was the best fitted, by steady and innate love for the purest types of Classic architecture, to grasp, successfully, the problem of the capitol extension, and to design the dome with which he later glorified and crowned his work. The boldness of his composition evinces his skill as a designer, and his confidence in himself. The vast wings forming the extension are of white marble of great hardness and durability—they have taken upon them, with years, a delicate pearly color, which, as it shows itself in the long colonnades, gives them an effect of purity and beauty.

Much as we pride ourselves upon the advances made in architectural design, we have nothing to show more nobly simple and well studied than this, the grandest of Mr. Walter's works. Such is the verdict of the architect and the critic.

Fergusson, the historian of architecture, and often a severe censor, writes: "Taking it all in all, however, there are few buildings erected in modern times which possess to a greater extent than the capitol at Washington appropriateness of purpose, combined with the dignity necessary for the senate house of a great nation. It has not the variety and richness of detail of our parliament house, but it is a far statelier building, and its faults are those of the age in which it was commenced, and which here tied the hands of subsequent architects, and prevented them from using the improvements that have since been introduced in the arts of design; but it wants but very little to enable it to attain to very high rank among the buildings of its class in other parts of the world."

The Hon. J. N. B. Latrobe, son of the architect of the original capitol at Washington, Benjamin W. Latrobe, thus eulogized Mr. Walter in an address before the American Institute of Architects in the city of Washington, at its fifteenth convention, in 1881. Speaking of the extension of the capitol, he said: "I can scarcely speak in his presence (President Walter being in the chair at the time) as I would like to speak, could I find words, to do justice to the last architect of the vast pile that now looks down upon the Federal City. The pupil of Strickland, as Strickland was the pupil of my father, it has been with me a pleasing fancy for more than a quarter of a century to believe that there was, in a faint way, a law of descent, applicable under the circumstances, which connected the architect who clothed Thornton's skeleton with sinew and muscle and beauty, until the whole creature became his own, with his brilliant, refined and accomplished successor, who, at the head of a profession socially, today, without a superior, has absorbed all that has been done before in what is now the capitol; who, making the magnificent dome, on whose iron sheets the hammer never ceased to ring during the war that threatened to make the whole structure worthless, has screened withal the exterior littleness of a vitiated taste, and made even the incongruities of the Italian Renaissance subserve the purposes of genius."

Ill-health compelled Mr. Walter to resign from the service of the government on June 1, 1865, and he then returned to Philadelphia.

Among the important works that Mr. Walter executed in Washington for the government between 1857 and 1865 are the extension of the patent office; the repairs of the congressional library; the extension of the treasury building; the general postoffice extension; the government hospital for the insane.

In 1849, the honorary degree of master of arts was conferred upon Mr. Walter by Madison University, N. Y.

In 1853, the University of Lewisburg, Pa., conferred upon him the degree of doctor of philosophy, and in 1857, Harvard University gave him the degree of doctor of laws. He also became a member of the American Philosophical Society, of Philadelphia.

In 1860, he delivered a course of lectures on architecture, at Columbian College, D. C., and also in Philadelphia and vicinity.

Doctor Walter was now well advanced in years and full of honors. After his return from Washington he engaged in but little private practice. When the erection of the new city hall in Philadelphia was commenced, he became connected with Mr. John McArthur, Jr., the designer and architect of that building, and continued to assist him on its work until a short time before his death.

Of Dr. Walter's connection with the American Institute of Architects, the profession may well be proud. The original "Institution of Architects" had slumbered for nearly twenty years when the present Institute was founded, in 1857, and on February 23 of that year, Dr. Walter was elected a fellow. On the retirement of its first president, Richard Upjohn, in 1876, he was elected its president, which office he filled continuously until his death.

At his last election to the presidency, on December 2, 1886, he thus expressed his thanks to the convention; the words, simple and touching, are not to be forgotten by those among his active associates in Institute work who heard them, and seemed to them prophetic of the great change so soon to come upon him:

"I return you my thanks, gentlemen, for your kindness and for your forgiveness. You might have done better all the time; but I began with you almost at the beginning and have been in my place as often as it was possible, and have done the best I could, and I intended when I came here to decline a reëlection, but my friends here have been very kind and have asked me to agree to it if I were reëlected, and I have agreed to it for another year. After that, if I live that long, I will ask you to allow me to take a rest. As to the year before us, I promise you to do all I can for the promotion of the prosperity of our profession here and everywhere, for the promotion of the interests of our Institute. Everywhere and at all times I am yours, asking you to look over my imperfections and to enable me to feel still further that I have your assistance in these matters connected with our profession. I am deeply interested in them and have been so for nearly sixty years. I shall not be troubled that way sixty years longer. Accept my thanks I pray you."

We have thus followed the career of Dr. Walter from youth to revered old age. His position in American architecture is a proud one. As he modestly puts it himself in the above address, "I began with you almost at the beginning and have done the best I could."

As an architect and scholar, Dr. Walter's professional learning was deep and well digested; in style of architectural composition, pure, artistic and dignified; in social life he was ever the cultured gentleman; in personal appearance, venerable and commanding. "Truth in art," was the keynote in his professional career—the fundamental law which he laid down for himself, and the burden of all his writings and public utterances. "Let us live," he once said, "for the promotion of our art. Let us leave no stone unturned to devise throughout the world the elements of a pure and correct taste."

One more quotation from Dr. Walter's address to the Institute of Architects and I will close this memoir. The last words of his annual address of 1880 speak the whole life of the man—no stronger or more heartfelt words could come from the lips of the Nestor of American architects:

"We owe it to our country, to the age in which we live, to our families, to ourselves, to devote the rapidly fleeting hours of our lives to the accomplishment of the greatest possible good in our vocation; ever seeking to discharge our duties in all good conscience toward those whose interests are intrusted to our care, towards co-workers in the realm of art and towards Him in whom we live and move and have our being."

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*NOTE.—As a matter of history it may be here stated that the persons who attended this meeting consisted of the following named architects, namely: Wm. Strickland, chairman; Tell Walter, secretary; and Messrs. Davis, Rogers, Vramp, and Reichardt. This was the representation out of twenty professional members or professors, as they were called, of the institution. The only associates ever admitted were William Kelly and John D. Jones, both graduates from Mr. Walter's office, and the name of N. Le Brun, then a student in the office, was furnished to the recording secretary as required by the by-laws in the case of a candidate from the lower grade.

THE Buffalo Library, where the convention was held, was designed by Cyrus L. W. Eidlitz, of New York City. It is built of red medina stone basement, red brick, red slate roof, terra-cotta trimmings. The building is four stories in height. The basement contains the rooms of the Society of Natural Sciences; the first or entrance floor, the library; the second floor, the library and rooms of the Fine Arts Academy; the third floor, the rooms of the Historical Society.

Mortars and Concretes of Antiquity and Modern Times.*

BY ADOLPH CLUSS, ARCHITECT, WASHINGTON, D. C.

INTRODUCTORY.

I ASK the indulgence of this convention for having chosen the trite subject of mortar. Though much abused and inconsiderately handled, it was and is one of the most essential building materials.

The communities have awakened to the importance of the architect's calling, but they are not slow to fix responsibility and demand guaranties that the materials and constructions specified, controlled and accepted by the architects, will resist all strains as well as the action of time, air, water, freshets, heat, fire, frost and lighter terrestrial commotions. By meeting all reasonable demands we can do much to give direction to these currents and many opportunities are offering.

The public spirit of the architects and engineers of France, guided by the academical spirit of a Rondelet, has succeeded long ago, that every quarryman, as a matter of routine, guarantees the absolute weight and prescribed strength of his material.

Bills of quantities have been incorporated of late in specifications and contracts for our more important work. By making this system more general, and adding to it strict definitions of quality and elements, we can best counteract the disastrous consequences of reckless bidding for work, and strengthen our influence on safe building.

The ingredients and mixing of mortars have vastly improved within the last decade. Physical and chemical investigations have been successfully carried on; important mechanical tests have been collated; so that many new features will appear, though unavoidably data familiar to you have to be interspersed in the essay.

HISTORICAL.

The phenomenal strength and durability of the edifices of the old Romans reap nowadays well-deserved tribute and admiration. The major part of the merit is due to the high quality of the stone and to the superiority of the mortar in the walls.

Though the slow and sure action of time has contributed to the gradual improvement and petrifaction of the mortar, this should not serve for palliating the shortcomings of our era. It should rather intensify our admiration for the intelligent care of the ancients who checked the tooth of time and made a destructive agent subservient to superior thought empirical modes of building.

The Romans surpassed the modern building regulations, since, instead of petty annoyances, the careful selection of the materials, preparation and use of the mortar, were all appreciated as elements of strong and durable work, and deemed of adequate importance for the appointment of special supervising officers, called ediles, charged exclusively with the details of mortar in use.

Mortar plays an important part in unraveling the mysteries of prehistoric civilization. Of ancient Nineveh comparatively little is known, because the bulk of its building material consists of air-dried clay laid with loam mortar; while the contemporaneous Babylon, built of brickwork joined with asphaltic mortar, is fully explored.

The Egyptians used the silt of the Nile for jointing our dried bricks in the oldest pyramids, and later on followed the precedent of Babylon, with asphaltic mortar. The Grecians, favored by a mild climate, dispensed with mortar. The stability of their monuments was secured by huge stones with carefully wrought and ground beds and dowels of cypress wood.

For dwellings and public works they used largely air-dried clay, so that as late as 362 B. C., when the city of Mantinea was invested, the fortifications were annihilated by softening after the river Ophis had been dammed and diverted by Epaminondas of Theben.

Even the Romans stuck to the use of air-dried blocks, called laters, because the dwellings built of this material are cool in summer and warm in winter.

The solidification of the old-time mortars is based upon a mere mechanical desiccation. It was a wide step to arrive at satisfactory results with mortars, the materials of which required chemical changes preparatory to use.

The invention of lime mortar, vailed in the distant past, is due either to the Phœnicians, or to the Egyptians, since in the later pyramids Nile silt occurs mixed with lime. This invention, big with results in advancing human culture, has made little progress for thousands of years, and only the latter part of our century may boast of important results.

The far more difficult task to produce a water-resisting mortar again antedates the Christian era. The Romans knew how to produce a hydraulic mortar by mixing lime paste with puzzolana. Vitruvius says of it: "Mixed with lime, it gives to every building great strength, and piers constructed in the sea harden even under water."

Concrete was also used by the Romans, and later by the Moors and masters of the middle ages for architectural work as air concrete, as well as for hydraulic engineering. The Pantheon in Rome was constructed of pozzolana-mortar concrete, filled in solidly between interior and exterior masonry facings. No unequal shrinkages and settlements have occurred anywhere in the wells.

During the Middle Ages, the tradition of the good mortar was kept a secret in those centers of superior workmanship, the sites of renowned cathedrals, but in many churches which are kept erect by expensive nursing, the mortar has become an inert powder, devoid of strength and hardness.

Up to the middle of the eighteenth century, puzzolana, imported from Italy and France, from Germany, via Holland, were the standard ingredients for hydraulic mortar in England. Anno 1756, the Eddystone lighthouse was consumed by fire. John Smeaton, intrusted with the erection of a new structure, searched for native materials for a mortar which was to resist the action of surf and sea.

The lime from Aberthaw answered his purpose best. He investigated the cause, and proved before long that but those limes resist the water which, when treated with acids, leave argillaceous residues. The ban was broken. In the year 1796, Parker introduced a product burned of lumps of chalky clay from the English coast, and called it Roman cement, because its color resembled Roman puzzolana.

The inference followed that hydraulic cements might be produced artificially of lime and clay. Consistent efforts revealed to M. Vicat, the French chemist, the due combining proportions and temperatures of calcining for a hydraulic cement which was, about the same time, empirically invented by Joseph Apsidin, an English mason.

After trials with waste clinkers, under Parker's process, he pulverized the calcareous detritus produced by the wear of the limestone roads near Leeds, mixed clay with it, and burned it in a kiln, at red heat. He called it Portland cement, since it resembled the Portland stone in color.

About the year 1827, Sir Charles Pasley, a conscientious investigator, improved and cheapened Apsidin's process by selecting the English chalk, an uncrystalline, fine-grained, earthy, porous limestone, of little cohesion, as best suited for manufacturing the cement. He mixed it with clay from the deposits at the mouth of the Medway river, near Chatham, and calcined them. The special merits of calcination at white heat were then not known, so that quality could not be relied upon.

In the year 1828, Prof. Fuchs, of Munich, formulated the first scientific theory of the action of hydraulic limes, and proved in a prize essay that Portland cement, which, so far, had been a secret of a few manufacturers, might be produced anywhere, from a variety of materials.

For want of successful competition, the manufacture was carried on empirically for many years more, hence the cement lacked uniform quality, the elements of progress, and brought but low prices. Many wrecks are of record where Portland cement had acted mischievously, so that engineers and architects had no confidence in it, on account of supposed treacherous qualities.

The new material dragged along with scanty recognition until, in 1858, John Grant, by experiments, and adherence to a system of details, enabled the London drainage works and the Thames embankment to be carried on, unerringly, as to good quality of the cement. The standard was now gradually raised and reduced; but this pioneer's experiments were of necessity incomplete.

Owing to local causes, it appeared that by adding to the weight of the cement, its tensile strength was largely increased. From this, unfortunately, the basis was reduced, that great weight was more desirable than fine grinding.

Grant's merits and high standing caused his dictum to remain unquestioned long after experiments had pointed it out as a fallacy. The labor of Reid, Mann, Newman and others in England; Michaelis, Banschinger, Dyckerhoff, etc., in Germany; of Zuirek and Hanenschild in Austria, and the valuable tests of the late General Gilmore, U. S. E.; W. W. Maclay, Eng. of the N. Y. depot of docks, 7,000 tests.

Eliot C. Clarke, of the Boston Main Drainage Works, 25,000 tests; E. J. Desmith, of Washington, and others have reversed the fallaceous doctrines. The importance of fineness is recognized and we command brands of uniform quality, which equal the strength of good building stone.

In the interesting annals of the material, each successful new factory may be claimed as a triumph of modern science, because a great variety of raw materials produced an approximately equal quality of cement, provided that each is individually treated and mixed.

Still the chemistry of the silicates is yet undeveloped. The observations and conclusions of leading experts conflict sometimes and neither contestant may be in a position to adduce strict proofs. I have therefore endeavored to condense from the scattered information such largely accepted facts and theories as tend to direct the attention of the busy architect to the vital points at issue.

We now proceed to the technical branches of the explanation.

INGREDIENTS, CLASSIFICATIONS AND PROPERTIES OF MORTAR.

The principal ingredients of rich mortars, the cementing substances and carriers of plasticity required for the setting of hydraulic mortars and cements, are the limes. The dense limestones, fine-grained, crystalline rocks, chemically called carbonates of lime, form the standard material for the mortar industry. By calcining different limestones, rich or fat limes, hydraulic limes, and cements are obtained.

In modern practice pure lime mortars are considered as secondary building materials of scanty resistibility formed under unfavorable conditions. Normal mortars are to contain combinations of lime with silica and other bases, approaching the strength of bricks and stones; these rank as primary materials of construction.

Good mortar is to have plasticity when mixed with large doses of sand and after solidification compressive strength; tensile strength, as evidence of independent cohesion and force to defy frost and heat; adhesive power for cementing blocks to monolithic bodies.

It is to be invariable in volume during and after solidification, to be weather proof, and for hydraulic works also water tight. All mortars are generally mixed with sand. It imparts crushing strength, lessons shrinkage and saves expense in lime mortars.

Hydraulic cements require sand only at exposed surfaces. Otherwise it serves as an adulteration for reducing a surplus of strength and density to actual requirements of a given bulk.

The sand should be clean, sharp, large grained, not too uniform in size, free from loam, well screened, and, if necessary, washed. Admixed particles of clay adhere to the sand and form diaphragms between sand and mortar, which for durability require close contact.

Puzzolanas are pulverized vulcanic rocks, composed chiefly of soluble silica, alumina, iron, and small quantities of lime. They produce hydraulic mortars, when mixed with lime, instead of ordinary sand. Where better

*A paper read before the twenty-second annual convention of the American Institute of Architects, at Buffalo, October 18, 1888.

materials are scarce, pulverized bricks and similar materials form weak artificial puzzolanas.

Since sand is mostly used in greater quantities than the cementing substances, it equals them in importance. It is in all cases imbedded in the matrix as a mechanical mixture. Tensile and crushing strength of the same cement, with equal doses of different qualities of sand, vary more than those of different brands of cement within the same group, do among themselves.

In slacking limes or mixing cements, a certain quantity of water must form with the solids chemical combinations, called hydrates. An additional quantity is necessary for imparting plasticity to the paste which evaporates again during the hardening, hence a too lavish use of water renders the mortar porous.

Clear rain or river water is best suited, since water from wells or springs is often impregnated with carbonic acid or other deleterious substances. Natural cements require more water than Portland, fine ground more than coarse, and quick-setting more than slow-setting cements.

The lime mortars solidify by evaporation and pressure. Induration proceeds slowly from the surface inward. The cement mortars enter the chemical combinations promptly, in proportion to and with the energy depending upon the materials which are ready formed by the process.

They set by a physical and chemical process, while reaction, begun by the agency of heat, is perfected by the action of mortar. As soon as the combinations are accomplished, creative activity is confined to secondary formations.

Induration goes on at once, simultaneously through the whole mass, but hardens, and strength increases for variable periods. An often mooted question, related to the subject under discussion, may here be alluded to. Is it safe to use cement on the second set?

Cement having set before me in the pan or on the mortar board, is probably not damaged chemically when plasticity is restored to new additions of water, but its density will be lessened, and in consequence its efficiency. However, for a day or so, as long as the water has not been evaporated or absorbed, these bad effects may be obviated by simply beating, manipulating, and stirring the congealed mortar with a minimum of water, when a mortar of little hydraulic energy, but slow and sure increase of density, will finally result.

Consistent encouragement of the mortar men, for using their muscles and strength, is indispensable for the success of this makeshift for overcoming a difficulty without doing harm. Shrinking mortars are, and have been prolific sources of disasters in walls faced with thin jointed materials and backed with material having heavy mortar joints.

The adhesive or cementing power with masonry is a most important requisite of mortar. Until lately this was, aad is still, largely the dark horse of the mortar theories. Mann has ascertained by twelve thousand special tests, that pure Portland cement of 425 lbs. tensile and 5,640 lbs. compressive strength per square inch, has but 60 to 80 lbs. adhesive strength to limestone, and that the proportions of tens to adhesive strength varies from 9.1 to 5.1.

In fact, these are different things, which bear no comparison. While tensile and compressive strength are based upon physical attraction between homogeneous molecules, the adhesive power is formulated under a different physical law.

Hanenschild has for years investigated it, and finds that it is largely based upon the adhesion of contiguous surfaces, intensified by an intermediate moistening fluid of glutinous consistency, which brings about the transition from apparent to real adhesion.

With absolutely tight contact, the resistance to separation would be infinitely great. It decreases with the square of the distance between the surfaces, and differs in intensity for heterogeneous plates of equal weights and sizes, or for dissimilar liquids.

Both fat-lime mortar, as well as Portland-cement mortar, resemble glutinous substances, but, under the microscope, the first shows an emulsion of minute, swelled, moistened globules in partial solution, while the second appears as a mixture of semi-vitreous, swelled scales separated by water.

NATURAL CEMENTS.

Limestone, with intimate, fine-grained admixtures of silica, alumina, magnesia, etc., in quantities of 35 to 60 per cent, are called cement stones. The high percentage of silicates causes a separation of the alumina from the silica during calcination at red heat just sufficient to expel the carbonic acid.

Oxides of iron and chlorides of potash are generally present in small quantities. They assist hydraulicity and crystallization. A cement of porous, friable, globular texture, with a specific gravity of about 2.7, is obtained. It contains silica and alumina in soluble state, and hence the lime can easily act on either, according to affinity, when water is added for mixing and hydration.

The burned lumps must be pulverized before they will combine with water when they form hydrated silicate of lime, while the alumina remains practically inert. These cements do not heat up, nor swell sensibly while they are mixed. They set quickly, but harden slowly under water without shrinking, and attain, gradually, great strength, with well-developed adhesive force.

The color of these cements give no clue to their cementitious value, since it is chiefly due to oxides of iron and manganese, which bear no relation to hydraulic properties.

To insure efficient chemical action in hardening, the grinding must be carried to the production of impalpable powders. These cements bear doses of sand of double their own volume or over. Mixing pure cements, from 30 to 40 per cent of water must be added.

Many American cements of this class contain large percentages of carbonate of magnesia. The tests of strength, in pure state, as well as mixed with sand, compare well with the cements which do not contain these combinations.

These cements have good adhesion to stone and bricks, because they pass with their surplus water slower than the others. Whenever judiciously selected and conscientiously manipulated, they have given full satisfaction. Many causes coöperate in affecting rocks of the compound character, required for the production of hydraulic cements.

Deleterious material is disseminated through the various strata of a quarry in constantly and widely changing proportions; each stratum exhibits heterogeneous features, hence it taxes judgment begotten of large experience, honesty, carefulness and skill to keep up reasonable uniform quality.

Different quarries show dissimilar stones; the best brands vary greatly in chemical composition. Fineness, density, thorough and homogeneous mixture, humidity, accessory ingredients, enter largely in the problems. To preserve the activity and strength of the natural cements for a longer time, air and moisture must be excluded by careful packing and dry storage of the barrels, otherwise the premature production of carbonate of lime will interfere with the subsequent hydration.

De Smeth found for our native Virginia cements in pure state, after thirty days exposure, 170–250 lbs. tensile strength per square inch, which increases in eleven months to 316–381 lbs. Mixed with equal portions of sand he obtained from 116–195 lbs., and L 80–L 90, as above.

Gilmore states the adhesion of Rosendale cement to the front bricks, after twenty-eight days, when pure, to be 30 lbs., and mixed with 1 and 2 parts of sand, 16 and 12 lbs.

Clarke reports the tensile strength of Rosendale cements, pure:

After 1 and 12 months, as	145 to 290 lbs.
And mixed 1 : 1 after 1 and 12 months	116 to 256 lbs.
1 : 2 after 1 and 12 months	60 to 180 lbs.
1 : 3 after 1 and 12 months	35 to 121 lbs.
One cubic foot of Rosendale cement weighs	49 to 50 lbs.

The proportion of tensile to compressive strength averages probably after one month 1 : 4, and rises probably, after two years, to about 1 : 6. The specifications of the engineer department of the District of Columbia, require, seven days after mixture, for neat natural cement 95 lbs., and for mixture with one and two parts of sand 56 and 22 lbs. tensile strength per square inch.

The gradual increase of strength by time is carefully noted, and establishes the reputation of the accepted brands.

NATURAL PORTLAND CEMENT.

Natural Portland cements are manufactured in those rare cases where rocks are traced, which contain combinations of lime and silicate of alumina in the chemical proportions and physical conditions found necessary for producing artificial Portland.

The treatment then differs from that of ordinary cement only in the higher temperature for burning. There are extensive works of this class around Perlmoos in Germany, Grenoble in France, etc.

ARTIFICIAL PORTLAND CEMENT.

Most of the progressive governments and organized bodies of architects and engineers of the world have been, within the last decade, taking action on the material, and comparative value, none of which are finally adjudicated, is apropos unadulterated.

The artificial Portland cement of commerce is a product, in which pulverized chalk or limestone is intimately mixed with such a quantity of pulverized clay as will produce, when calcined at white heat, vitreous but not entirely melted clinkers, which, when pulverized and hydrated, harden under water.

Being entirely under the control of the manufacturers, the Portland cements are less variable than the natural cement. According to Dr. Michaelis, the foremost cement expert now living, the raw materials, when dried at 212 degrees Fahrenheit, consist essentially of 75 to 79 per cent, by weight, of carbonate of lime, and 24 to 29 per cent of silicate of alumina, clay.

These, when burned, represent 62½ to 67 per cent of lime and 33½ to 29 per cent of silicates, silica, alumina, oxide of iron, leaving 4 per cent for accessories. After the hardening of the hydrated cement a transformation by complicated reaction has taken place into hydrates, silicate of lime as the most important ingredient in hydrated aluminate of lime, ferruginous lime, hydrate of lime, basic sulphate of lime and carbonate of lime.

Microscopic examinations of other investigators do not conflict with this analysis. During the calcination, alumina and oxide of iron, which acted in the clay as bases, assume the role of acids toward the lime, the calcinated oxide of iron acting as flint in the fire.

A preponderance of alumina favors quick setting, while an increase of iron has the opposite effect. The ingredients being pulverized are mixed into a homogeneous paste, baled, dried and burned by exposure to a quick white heat, equal to the melting point of wrought iron. This causes first, the expulsion of the chemically bound water and carbonic acid, and next a softening of the whole mixture.

When partial vitrification sets in, the heat is to be promptly stopped, since a higher heat or a continued, oxidizing heat of the normal temperature will ruin the cement which now requires rapid cooling as much as it did a quick heat before. At this stage the sifting lime is allayed with the softened clay, while neither is in fusion yet.

A disposition for the formation of new combinations of lime, with silica, alumina, oxide of iron, etc., is induced without allowing these nascent combinations to be fully consummated, because they, as crystalline bodies, would impede the subsequent hydration and the dense interlocking of the molecules during the setting, crystallization, of the cement.

Under these circumstances the lime, though not chemically combined, is engaged and kept out of harm's way. The high temperature in the kiln has gradually condensed the mass, and most prominently the silica. The globular texture attained in moderate heat was simultaneously transformed into a limited semi-vitreous texture.

The Portland cement owes its high reputation largely to such physical changes. Globular texture makes contact by points, while laminated texture achieves more intimate contact by surfaces. In our case it secures in

strata of equal height about 50 per cent more cementing substance than a mass of globular particles.

This close packing intensifies cohesion of which the high tensile strength is the brochant. After cooling, the clinkers are ground to impalpable dense, drossy, steel-hard powder, having a specific gravity of 3.0 to 3.15. A few weeks' storage seasons the product and makes it ready for use.

AS TO THE SETTING AND HARDENING PROCESSES.

All the combinations produced during calcination contain more lime than can be disposed of, for the formation of hydrates, when the cement is mixed. Hence, under the influence of water, decomposition sets in, combinations are formed which are poorer in lime, and lime is disengaged which, in the presence of alkalies, soda and potash, crystallizes to some extent.

In the hardening cement there is not any combination of lime which is insoluble in water. The durability of hydraulic cements in water, and prominently in the sea, is not caused by their chemical composition, but by physical properties mentioned above, and in addition by part of the liberated lime absorbing eagerly carbonic acid from the atmosphere, and forming insoluble carbonate of lime which makes a protecting coat over the surface of the cement, and counteracts the decomposing tendencies of the water.

Under the influences the texture of the cement is sufficiently condensed for debarring access into the interior of the wells to the carbonic acid itself which, when moist, would act on all the calcareous combinations with silica, alumina and iron. As accessory ingredients occur in Portland cement, sulphate of lime and other combinations of sulphur which, combining with seven chemical equivalents of water, and even more, cause considerable increase of volume.

This explains why a large percentage of sulphuric acid endangers the durability of hydraulic cements, while a small addition of it tends to increase their strength. If the contents of clay in Portland cement rise above 50 per cent of the calcined lime, overlayed cement, complete vitrification is to be feared during the burning, the lack of cementing substance, lime is felt, and the cement becomes an inert mass unfit for use.

On the other hand, an overlimed cement tends toward quick-setting and blowing or expansion. These efforts, due to presence of free caustic lime, may be remedied by airing such cement, for a day or more, when the caustic lime will absorb carbonic acid from the air and become an indifferent body for the cement.

There is for each material one most favorable proposition in which the tendencies to shrinking and to blowing neutralize each other so that a good cement is the result. The chemical reaction require, for cement burned at white heat only, half as much water as those burned at moderate heat; this no doubt contributes to the superior strength of the Portland.

Water, 20 to 25 per cent of the weight of the cement, generally suffices for mixing pure cement. Mixtures with sand, according to its dry or moist state, require increased quantities. By far the strongest mortar, with or without sand, result from mixtures in a state of incoherent dampness with no more plasticity than absolutely necessary for the work in hand.

Too long continued stirring, or excess of water, prevent setting, a paste being formed which slowly hardens by shrinkage, caused by evaporation and pressure, analogous to fat lime. Normal material and treatment result in slow and cool setting, but comparatively low adhesive power.

The strength increases for a slow-setting cement gradually for about two years, while the comprehensive strength increases for many years. All Portland cements bear very large doses of sand. These gradually retard setting and reduce the tensile strength of pure cement, one year after mixing, for 1, 2, 3 and 4 parts of sand to one of cement, by 25, 50, 60 and 70 per cent, Michaelis' and Grant's tests.

Excessive doses of sand make a hard, raw mixture difficult of manipulation, hence become unsuitable for architectural work. Portland cement is dangerous for use in fastening projecting blocks or ornaments to walls. The fat cement mortars shrink on exposure to air.

In addition the silica, the texture of which was condensed by the extreme kiln heat, expands within the mass during the hardening process, and as a consequence drops of water are observed to be pressed out of the pores of the mortar.

The cement, then, frequently separates from the surface which it had cemented before, especially if they consist of very dense stones, like granite and marble. Michaelis has followed up this mischievous tendency minutely.

AS TO THE COLOR OF THE PORTLAND CEMENT.

Silicate and aluminate of lime are white. This ground color is covered by colored combination, in which the vitrification is effected. Well Portland cements have a greenish brown color, caused by dark brown ferruginous lime, and the intensively green manganese salts. Weaker burned cements appear greenish green because this ground color is but partly covered.

Admixed sulphates occasionally cause yellow, reddish and green color. The properties of Portland cement are often misleading. Light weight may be caused by laudable fine grinding or by objectionable weak burning.

As a consequence of such dilemmas, J. Newman writes, in 1887, specifications of Portland cement at present still differ as much as 300 per cent in requirements as to fineness, 18 per cent as to weight and 100 per cent as to strength.

Uniformly there is only on the time of the tests the tact and intelligent observation required for obtaining reliable tests, has led to the adoption of standard rules by the German architects and engineers in 1877.

These were substantially indorsed by the German government in 1878, and afterward by Australia, France, Sweden, Russia, Belgium and Switzerland, and made the basis of recommendations by the Society of Civil Engineers of the United States in 1885, and revised anew by the German government in 1887.

The latest phrase of these tests may well be alluded to. They are for general use mechanically, relating to weight, fineness, setting, invariableness of volume and strength, leaving the important microscopic examination of thin sections showing the texture, of chemical analysis, and of adhesive power reversed for test cases.

CEMENT TESTS.

The weight of Portland cement varies from 70 to 92 lbs. per cubic foot for brands of equally good quality. Since we buy by weight it is immaterial what size the manufacturer must give to a barrel in order to bring it to the standard gross weight of 200 lbs., but each factory should be held to uniform weight of its out-put, the extreme difference not to exceed 2 per cent loss by leakage.

Finest grinding of the whole mass coming from the kiln, and not merely fine sifting with a large percentage of granular residues on the sieve, is very important. All the granular residues, even on the finest silk sieves, have, practically, no setting power, and act little better than good sand.

They represent the well burned clinker which did not yield to the action of the mill stones as readily as the softer pieces. Finely ground cements have largely increased values for mixtures with sand. The new German regulations allow a residue of ten per cent on a sieve of 13,000 meshes per square inch.

Cements which set in less than half an hour are called quick setting, and those which do not set before two hours, slow setting. These distinct provisions prevent misunderstandings as to what is meant by a slow-setting cement.

Excepting special cases, slow-setting cements, as most trustworthy and best suited, must be specified for all works in architecture. According to the prevailing American, Gilmore, needle test, cement begins to set when it bears a wire of $1\frac{1}{13}$ inch in diameter loaded with $\frac{1}{4}$ lb., and has set when it bears a needle with a flat end, of $\frac{1}{24}$ inch diameter, loaded with 1 lb., without making any impression on a flat cake of cement. Whether the volume of the cement has altered during or after setting is ascertained by immersing in water a thin cake spread upon a glass plate.

Signs of crumbling or cracking at the edges indicate expansion. Fissures in the center of the cake arise generally from premature exposure to drafts or sun heat, which causes shrinkage.

The cementing power of Portland cement shall be ascertained by a mixture of sand and cement, as used in actual work, since reasoning from tests on the comparative value of different cement for mortar is unavailable. A most interesting instance is presented by tests made by the Association of Civil Engineers, of Bonn, Prussia.

Pure cement gave, after twenty-eight days, 426 lbs., and after six years 556 lbs., tensile strength. One volume of same cement, mixed with three parts of sand, give, after twenty-eight days, 170 lbs., and after six years, 720 lbs.; average tensile strength 160 lbs. more than the high figure for pure cement.

For all mortars, or cements, test sands of equal size, quality and condition must be used for obtaining comparative figures. This is done by washing and drying quartz sand, removing the coarsest parts by a No. 20 sieve, 400 meshes per square inch, and the finest particles by a No. 30 sieve, 900 meshes.

Tensile strength has been generally used of late years as the convenient gauge for resistance to other strains. Though these relations are not uniform for different cements, it should be upheld as the expression of the cohesion of the mortar. The German regulations have restored as the leading test that for compressive strength. They require slow-setting Portland cement, mixed in the proportion of one part, by weight, to three parts of regulation sand, to have a minimum tensile strength of 230 lbs., and compressive strength of 2,800 lbs. per square inch, after twenty-eight days' exposure—one day in the air and twenty-seven days under water.

It is a grave error to require on works above the water level, a too high tensile strength, at an early day. Hydraulic quickness for exposure to the atmosphere is obtained at the expense of durability, while moderate strength and gradual increase with age are to be encouraged.

Maclay continued to test cement rejected under the seven days' test. It overtook the accepted cement after a fortnight, and after eighten months the advantage gained was kept up, 487 against 439 being the ultimate figures of strength.

The strength of the cement increases from 35 to 40 per cent in the interval between seven and twenty-eight days after mixing. The proportion between tensile and compressive strength, and between seven and twenty-eight days, having been ascertained for a brand—new cargoes received during the season—may be controlled by the tensile test, after seven days exposure for adhesive strength. There are no new data, Mr. Grant found, for a mortar of 1.2 of sand, after twenty-six days at 15 to 30 lbs. per square inch.

The properties of Portland cement, as enlarged upon, characterize it as an excellent building material, especially useful in hydraulic architecture and important works where heavy strains must be withstood within a few days or weeks after they have been built.

At high places where no difficulties from water are met and the load is but slowly and gradually imposed, reliable, slow-setting, natural cements are competent competitors to the Portland, since a breaking weight of 300 lbs., attained by the latter in a week, is by the better class of them approached within a year, so that a mortar mixed with them is of comparative value to Portland cement mortar, provided that equal care has been used in either case.

MIXTURES OF CEMENT.

Clarke, Boston, tested Portland cement mortar, mixed in the proportion of 1 : 3, and also Rosendale cement in proportion 1 : 1. One year after mixture he found the tensile strength of each to be 256 lbs. A richer natural cement mortar was equal to the weaker Portland cement mortar.

He also mixed one-half part of Rosendale cement and one-half part of Portland cement with two parts of sand, and obtained, after one year, 273 lbs. tensile strength, while the same cements, separately mixed, gave for Rosendale, 1 : 2—180 lbs. and Portland, 1 : 2—323 lbs., the average being 251 lbs. Hence, the mixture showed a small gain, probably caused by

increased density, in consequence of mixing cements of different texture. Consequently, mixtures of natural and Portland cements are unobjectionable and safe.

MIXTURES OF CEMENT, LIME, ETC.

Superior strength, capacities for sand and hydraulic qualities, characterize Portland cement, but the adhesive power to brick and stone is but developed in lime mortar. It has long been an American practice to reënforce ordinary lime mortar by additions of natural cements.

Strength and hydraulic qualities are added to the solid adhesive qualities and durability of good lime mortar. Under competent management success has followed these mechanical mixtures resembling hydraulic limes, like the imported popular lime De Theil.

Similar results have been lately obtained on the new frontier fortifications of the German Empire. Portland cement mortar containing large doses of sand is mixed with lime paste. Large increases of adhesive power to bricks, and even small increases of strength resulted.

The explanation appears to be because a small quantity of the strong material resists the tensile and crushing strains, hence the addition of large doses of sand. But to be of use as a mortar, this diluted mixture lacks power for cementing bricks together, and this is economically and well increased by lime paste.

Provided that the total amount of the mortar substances is large enough to fill the voids of the sand, the added lime serves to fill the still considerable interstices between the particles of cement. This gives higher density—the greatest strength possible with the large dose of sand, and is important for architectural work.

The special requirements of the best mortars for architectural work have not been brought out yet with efficient force. In the mixtures of lime paste with the natural and artificial cements the true solution will be found most likely, because they permit to approach in grade and intensity the slow and steady action of the hydraulic limes, which make excellent material for works exposed to the atmosphere, though they are of limited importance for hydraulic engineering.

Dr. Michaelis writes: "It has been overlooked of late that water is the element in which the hydraulic mortars develop their full efficiency." All hydraulic cement require for their preservation, protection against desiccation, hence moisture.

Such cements as consist substantially of hydrated silicates of lime alone, act well under water, but when exposed to the atmosphere they are acted upon by carbonic acid, when carbonate of lime, an insoluble body, is formed, an action accompanied by considerable shrinkage, causing minute fissures, which must end, sooner or later, with destruction with atmospheric influence.

CONCRETE.

Concrete is case masonry made of mortar without artificial bond, into which pebbles and broken stone, or similar material, are imbedded, in order to reduce the consumption of mortar. The lime or cement act as the principal material of construction; the coarse, inert accessories are called aggregates on ballast.

The strength of concrete depends upon the cohesion of the mortar, adhesive to the aggregate, irregular bonding or interlocking of the coarser fragments, and upon the strength and proportion of each ingredient. Rough, coarse-grained, clean sand is best.

Maclay found 11 per cent decrease of strength in Portland cement mortar, mixed 1:1 of fine sand, as compared with coarse sand. With larger doses of sand the loss is greater. To insure compact packing, the ballast consists best of a mixture of crushed stone, one to three inches diameter, and pebbles, which are at least equal to the strength of the mortar.

Sun-dried or rain-soaked material is to be strictly avoided. The cementing substances depend upon the use of the concrete. The finest condition for a solid, durable concrete above water is, that it is as dense and homogeneous as possible while setting.

Judicious handling of medium quality material may bring out a good concrete, and prevent a dead waste of cement, frequently resorted to, to counteract the results of defective manipulation. Concrete has a specific gravity of 1.5 to 2.5 according to its composition of crushed bricks or heaviest stones.

A cubic yard weighs from 2,500 to 3,900 lbs. All the voids between the stones need not be filled with mortar. Only enough mortar is required for forming a coherent, reticulated form between the coarse ingredients which, by interlacement, consequent upon tempting, approach each other in numerous points and surfaces.

This secures the necessary frictional stability, without sacrificing the advantage of permeability, or slight porosity, which favors natural ventilation by the diffusion of air through heavy walls. The French architects use air concrete largely for filling in walls of unusual thickness on monuments, or ornamented projections of buildings.

For the architect's practice in the N. L. hydraulic concretes for use in foundations is the object of importance. It should be water tight, hence the voids in the larger-sized ingredients must be filled solid by the mass of the mortar, and the latter is again to be so constituted that the voids between the grains of sand shall be closely filled by the cement paste.

The addition of water is to be limited to the actual requirements which fluctuate for natural cements between 50 and 55 per cent, and for Portland cement between 40 and 45 per cent of the weight of the cement used. Plasticity is only to be attained by diligently tempting an apparently dry mass until water appears on the surface. The proportions of this material are to be ascertained by measuring the respective voids.

If stones passing through a 2-inch ring, mixed with pebbles are used, the space between the stones will approximate 28 to 35 per cent, to which an efficient of safety of 15 per cent ought to be added for obtaining the amount of sand needed.

Since concrete work once done cannot be well controlled, it is for the superintendence to watch that these legitimate coefficients are not ever, by heavy discounts, chargeable to indifference, carelessness and dishonesty.

The voids between the grains of sand will probably amount to 33 per cent; that is to say, 67 per cent of the cubic contents to be occupied by the mortar are absorbed by the sand, and 33 per cent are to be filled in with cement, so that a mortar of one part of cement to two of sand, and no more, is required.

This mixture may reach, after four weeks, a compressive strength of 175 tons per square foot. The eight volumes of material fill, finally, a space of about five and a half volumes. A weaker compound, not strictly water-tight, would be 1:3:6, one-half, General Casey tested; and Portland cement mixture of 1:2:7, three of pebbles and four of broken stone; it was 138 days' old, and showed the first crack at 125 tons, and crashed at 155 tons per square foot. This mixture was successfully used for enlarging the foundations of the Washington Monument, which implied transverse strains at the outer ends of the concrete slabs. The maximum pressure upon the ground under this structure is five and a quarter tons; but since the maximum pressure at the outer edge of the foundation is nearly ten tons, the concrete immediately underneath may be assigned to be equally loaded.

As for concretes made with natural cements, a mixture 1:2:4 is used in a forced condition for the Washington aqueduct extension, nearly four miles in length, where it is subject to a hydraulic proportion pressure of 4:4 tons, a water column 140½ high. For ordinary purposes a mixture of 1:2:4:4 pebbles and stone, with first-class Rosendale composition, used by competent hands, ought to stand ten days after depositing a load of 16 to 20 tons per square foot. For practice the following conclusions are arrived at: A correctly proportioned concrete has fully as much strength as the cement mortar used in mixing it.

By diminishing the ballast below the calculated quantity the cost of the concrete is increased without benefit to the strength. Strength increases for seven months and over by 30 to 40 per cent concreted with weakest mortar; start low but catch up considerably in time.

Municipal Building Laws.*

BY GEO. A. FREDERICK, F. A. I. A., OF BALTIMORE, MD.

THAT some laws relative to building are of very ancient date, showing that at all times the preservation, as also the protection of neighboring property, was a matter of popular importance, we have ample evidence. One of the most familiar to all is probably the "curfew" bell, which, ringing at a fixed hour every evening, advised the people to put out or protect their fires. This custom, brought to England from the continent by William the Conqueror, is said still to live, at least to the extent of the bell ringing in some districts; but, specially digested and combined laws, relative to the constructions of buildings are of comparatively recent date; those of European cities, while earlier than ours, date back scarce more than a generation. The London "Building Act," as it is technically called, was only established in 1844, copiously amended in 1855, and was probably the first comprehensive legal instrument designed to contain within itself the requisite elements of safety and preservation.

In this brief paper I do not purpose to touch upon municipal regulations as to building lines, projections beyond, or encroachments thereon, but to confine myself to the structural element itself.

Most of the leading cities of the United States have in the past decade sought to establish laws governing the erection of buildings within their boundaries; disjointed and scattered laws, having reference to some special materials prohibited, constructions condemned, or sanitary features to be enforced, exist in almost all localities; all of these contain undoubtedly many good features, are a step in the right direction, but my observation leads me to believe that but few cities possess a well-digested, practical law, subjecting their citizens to no useless, or, rather, unnecessary expenditures, and confined strictly to the essential requirements such as justice demands should alone be enforced.

What are the essential requirements—what the important conditions which he who builds, owes not only to himself, but also to his neighbor, to his fellow man; which in justice can be demanded, nor more, nor less than which should be the *sine qua non?*

Security of structure; hygiene, or sanitation of surroundings.

Security of structure must embrace not only stability, but also reasonable safety against destruction from no external or internal causes, by reason of deterioration of materials, or by that more frequent and more destructive agent—fire.

Hygiene. In this respect every building should be so constructed as not only to be healthful and salubrious to those within, but in no wise to become a source of danger of contamination or injury to others.

The primary condition, that of security of structure, is a varying one, differing with the purposes of use to which the building is intended to be put. The latter, that of hygiene, is one which in principle remains the same for all.

The varying quality of the first problem makes in one respect its solution difficult. A building, for instance, may be erected for a specific purpose and be perfect for its special uses in every detail; from a variety of circumstances, such as are occurring at all times, it may, for this special use become unnecessary, and the owner compelled to look for other tenants; or it may be sold, and under either circumstance, its new uses be radically different from its previous ones. Again, do we not see daily, dwelling houses altered into shops or stores of various kinds, and cease to be dwellings or domestic structures in every sense? Under such continuous liability of change, it seems to me that all which can be asked is reasonable stability in the kind of building constructed; a concise declaration, strictly enforced, as to what materials can, and how or where they shall be used to construct a component whole, and a requirement, that in every building outside of such as are used for strictly domestic purposes, a legible notice shall be conspicuously posted on every floor, giving the safe carrying

*Paper read before the twenty-second annual convention of the American Institute of Architects at Buffalo, October 18, 1888.

capacity of said floor per square foot, loaded in the middle, and with reference to all concomitant circumstances, such as condition of walls, columns, or other supports, made and signed by a reputable and competent person of that state in which such building may be situated, and renewed at intervals of not more than five years.

Safeguards with reference to the prevention of fires on the interior, and to arrest their spread from contiguous causes on the exterior or interior, also claim attention. In this regard I believe it would be wise to enforce the thorough fireproofing of all structures of a height greater than 65 feet. All buildings should have their roofs covered with some fireproof material, and all exterior cornices or decorations or constructional features above a height of 55 feet, to be similarly protected and finished. Provision should also be made for the use of steam boilers under fixed rules and requirements, as also for their chimneys. Also for the construction of fireplaces, flues (be they for the purpose of conducting heat or smoke), chimney breasts and chimneys in general.

Buildings should be classified into public or private. The former should embrace all churches, theaters, public halls or places of amusement. Court-rooms, schools, hospitals, asylums, office buildings or flats, hotels or tenement houses (above a certain fixed capacity) and manufactories employing more than a certain number of people. Stores, where manufacturing is combined with the business carried on, or buildings occupied by different tenants, the aggregate of whose employés would exceed the number as fixed upon, are also to be classed as factory buildings.

Private buildings would embrace smaller tenement houses, hotels, possibly, too, private schools and factories (limiting the number of occupants in the entire building), ware or storage houses, stores and dwellings.

For the former class, all elevator walls and stair halls should be inclosed, and their walls, floors and ceilings formed of some fireproof materials; the stairways should be incombustible. The stairways, their halls and exits should not only be direct, but more than ample in proportion to the maximum wants and the area of the space covered. A stairway, I think, should be provided for at least every 2,500 feet of floor space, and in places of amusement or in schools even in greater proportion. It has often occurred to me, that if in hotels a uniformly colored globe, say red or blue, was used in such corridors only upon which stairs are situated, the lights in the same to be kept brightly burning during all hours requiring artificial light, it would not only prove a good guide in times of emergency, but even on ordinary occasions, to the unfamiliar and bewildered wanderer, seeking for egress. Fire escapes, in addition, should be provided for all buildings not strictly fireproof and intended to accommodate anything beyond a comparatively small number (fixed) of persons.

All churches, theaters, public halls or places of amusement, schools, hospitals or asylums, offering more than an ordinary, limited and fixed accommodation should be required to stand isolated on at least three sides from adjacent buildings.

The admissibility of frame or wood-lined buildings, sheds, stables or other structures of kindred character and their restrictions, would, of course, form a part of such a law as we speak of, and be considered with reference to the locality and surroundings.

We now come to our second principal division, namely, hygiene, or sanitation. Probably the most thoroughly important element of this is the effective drainage of marshy, springy or low lying lands before they are built upon; and when the same, as is often the case, are below the level of the streets and require filling up, equally important is the character of the material used for filling. How often are not such lands the common dump for all the refuse of the surrounding district or city. Often piled with twenty or even thirty feet of reeking filth, and decaying vegetable matter of all kinds fermenting, festering and sending up their noisome gases for years through the habitations built on them, to breed typhoid, diphtheria and kindred diseases. After thorough drainage of the sub-soil, such low lying lands should be filled with proper materials, consisting of good earth, cinders or ashes, but not the latter mixed with kitchen refuse or street cleanings.

Proper provisions for the ventilation of all rooms or apartments should also be one of the requisites of the law, as also a fair amount of direct light. In some cities of Europe, Berlin for one, if I rightly remember, it is obligatory upon everyone building a dwelling, to leave a certain fixed proportion of the lot improved free from buildings of any kind. All cellars, as also foundations where no cellar exists, should be paved with some suitable material.

The thorough drainage of the yards, courts or areas is also important, and should claim attention.

Finally: The plumbing throughout should be required to be well done with substantial materials, thoroughly trapped and vented. The above remarks are only intended as general suggestions, and give the writer's view of this subject. Of one thing he feels certain, that a building law to be successful, and thus beneficial, must be as simple and plain as it is possible to make it, and should only exact, and that in the most economical manner, what is absolutely requisite for the general welfare of all.

A RAGE for monumental statuary seems to pervade Italy. A certain Arturo Collanti complains in the public press of what he calls the "stone malady," which insists on erecting memorials in all parts of the peninsula, not only to "all its great men and all its half great men, but to its small men as well." Victor Emmanuel, Cavour, Garibaldi and Mazzini gaze with stony eyes upon the traveler at every turn. Outside of Naples and Rome there are forty-eight statues in Italy to these four heroes alone, of an aggregate value exceeding three million dollars. So active is this industry that in the town of Novara, Piedmont, no less than three new statues were unveiled on a single Sunday. If the monuments now projected should all be executed, the Italian sculptors, good, bad and indifferent, would all have their hands full to the end of the present century. At this rate Italy bids fair soon to become a vast gallery of statues from one end to the other, and it will be easier far to find a statue than to remember whom it is to commemorate and what for.

Western New York State Association.

THE second annual convention of the Western New York State Association of Architects was held at Buffalo, October 16. The meeting was most representative in character.

The meeting was called to order at 3:40 P.M. by President James G. Cutler, of Rochester. Secretary W. W. Carlin then called the roll, as follows (an * designating those not present):

Charter Members: Otto Block, Rochester; *E. M. Buell, Syracuse; Robert A. Bethune, Buffalo; H. C. Burdett, Buffalo; James G. Cutler, Rochester; Chas. F. Crandall, Rochester; E. A. Curtis, Fredonia; H. L. Campbell, Buffalo; O. W. Dryer, Rochester; Jay Fay, Rochester; John Falkner, Buffalo; *J. W. Griffin, Watertown; *John Hose, Watertown; J. P. Johnston, Ogdensburg; *D. D. Kieff, Watertown: J. H. Kirby, Syracuse; Asa L. Merrick, Syracuse; Geo. J. Metzger, Buffalo; *C. Francis Osborne, Ithaca; Cyrus K. Porter, Buffalo; Jesse R. Porter, Buffalo; *W. H. Richardson, Rochester; Wm. C. Walker, Rochester; Geo. W. Baxter, Syracuse; Louise Bethune, Buffalo; *Joseph Blaby, Palmyra; *Thomas Birt, Utica; J. R. Church, Rochester; Chas. E. Colton, Syracuse; W. W. Carlin, Buffalo; *G. Edwin Cooper, Utica; *Otis Dockstader, Elmira; Orlando K. Foote, Rochester; Fred H. Gouge, Utica; Ellis G. Hall, Syracuse; *J. Q. Ingham, Elmira; Edward A. Kent, Buffalo; W. Foster Kelly, Rochester; T. I. Lacey, Binghamton; J. H. Marling, Buffalo; Thomas Nolan, Rochester; J. H. Pierce, Elmira; Chas. R. Percival, Buffalo; Louis P. Rodgers, Rochester; James A. Randall, Syracuse; W. S. Wicks, Buffalo; J. M. Elliot, Syracuse; Noah Dillenbeck, Syracuse; B. T. Lacey, Binghamton; Wm. H. Archer, Fredonia.

Honorary Members: R. C. McLean, editor INLAND ARCHITECT, Chicago, Ill.; *Prof. Chas. Babcock, of Cornell University, Ithaca, N. Y.; *Chancellor C. N. Sims, of Syracuse University, Syracuse, N. Y.; *H. N. White, Syracuse, N. Y.; *Prof. George F. Comfort, of Syracuse University, Syracuse, N. Y.

President Cutler then addressed the convention, as follows:

GENTLEMEN,—You are all aware of the fact that the American Institute of Architects, the oldest organized society of our profession in the country, and of which a number of us are members, holds its twenty-second annual convention in this city tomorrow and days following.

In its proper place you will receive the invitation extended by the Institute to the members of the society to remain as spectators and guests during the convention, and to participate in the hospitalities which are to be extended by the architects of Buffalo to both associations.

Owing to this conjunction of meetings the Executive Committee, in arranging for our own, has thought best to attempt nothing more than the routine which an annual meeting involves, the consideration of reports and the election of officers for another year.

Since I had the honor of addressing you at the opening of our interesting and profitable meeting in Syracuse, the society has visited Cornell University upon the invitation of President Adams, and was most hospitably entertained at dinner and otherwise by Profs. Babcock and Osborn, and although, owing to the fact that this excursion took place at the height of the building season, the attendance was not as large as the very great interest of the occasion would have justified, it was felt that the meeting showed a warm interest on the part of the profession in architectural education, and that it did much to strengthen the esteem in which the admirable architectural department of Cornell University is held by the profession in this part of the state. Thoroughly practical, tending always to make the student familiar with the real problems in design and construction, and to develop individual strength rather than conformity to an artificial standard, in charge of instructors of marked ability and enthusiastic in their work, the architectural department of Cornell University, with its grand library and collection o photographs and models, is doing a great and growing work.

As architects, we shall all enjoy the privilege of spending some time in a city whose recent architecture is so admirable and where so many interesting works are to be seen. The building in which we are assembled and which is conspicuous for its beauty and fitness, on a site almost unique, is not less remarkable as the outcome of a successful competition; it is the work of Mr. Eidlitz, of New York.

The State Insane Asylum is by Richardson, though perhaps not in his best vein. St. Paul's Church, by Upjohn, has long been to my mind a model of ecclesiastical design. It is now undergoing restoration after the fire—and is even in the present state an object of great interest.

Buffalo is also remarkable and interesting to an architect for its beautiful houses, and in these as in other recent work, the ability of many of our own Buffalo members is conspicuous. I could extend my remarks very greatly without mentioning more than a very small proportion of the buildings which will challenge your attention and admiration.

In conclusion, I congratulate you on the act that the association comes to its first annual meeting without even a suspicion of dissension, ready, I believe, to enter upon a long life of usefulness. Let us never forget that "the objects of the association are to unite in fellowship the architects of western New York to combine their efforts to promote the artistic, scientific and practical efficiency of the profession and to cultivate and encourage the study of kindred arts," and each do his part in sustaining and advancing the work of the society on these lines.

President Cutler: Mr. Sidney Smith, the well-known architect of Omaha, and president of the Western Association of Architects, the National Association, of which this society is also a member, is with us, and has kindly consented to say a few words to the convention. I have the pleasure of introducing Mr. Smith, of Omaha.

Mr. Smith: Gentlemen, I wish I could add ladies, but I hope the day is not very far distant when I can add that to it. Your president has done me a very great honor in introducing me to a gathering of this kind, and I feel very much gratified at meeting so many in a state association. We have state associations in several of our western states, where the utmost number we can usually get together is ten—a dozen would be a large gathering—and it is doubly interesting to me to meet you here. We are on the eve of two very important meetings, I refer to the American Institute and the Western Association of Architects, at which, I believe, a very large amount of important business will be transacted. The success of these meetings depend largely upon the efforts of the state association in carrying them out, and it would not become me to take much of your time in discussing them now, as the time is so short, when I hope the most of you will become aware of what we are; but upon the state associations the other associations are relying for the success of all their undertakings. The success of all general associations depends entirely upon the success of the parent, and one of the children we hope to see is the formation of a national institute. If by any means we can animate the Western Association with the spirit of its own parent, the national institute, and it should become a national necessity, with the number of children that they have in every state in the shape of state associations, to work with and to be amused by, I think the prospects for the future of the architects in this country would be much more flattering than it is today, as we are under so many disadvantages, ignored as a profession by a great many other

professions—the legal fraternity in particular—and it is now high time that we should have some legal standing in this country. If the public expect to be protected just as they expect and want some man to bear the blame for whatever shortcomings may occur, we should certainly ask the same protection from the public, and the only way to accomplish that, in my mind, is to secure state legislation or some similar act. The associations, themselves, certainly might take the initiative step in legalizing our profession, by examination if you will, or by any means which the associations choose to adopt that will place a man in sufficient standing as an architect before he is entitled to hang out his shingle; by that time we may reasonably hope for something else; but, until then, I see no help, no protection, except the rule of each man for himself. At this meeting I sincerely hope something will be undertaken looking to this end. I won't detain you from your further duties. (Applause.)

President Cutler: I am sure we have all listened with great pleasure to the words of Mr. Smith, and are much pleased to have him with us at this time. We will now proceed with the regular order of business.

Treasurer C. E. Colton read his report, which showed a good financial condition. The report was referred to an auditing committee, consisting of R. A. Bethune, J. H. Kirby and A. H. Johnston.

Secretary Carlin then read the minutes of the last meeting of the association held at Syracuse, N. Y., beginning February 7, 1888. The minutes were approved as read.

Secretary Carlin next read the report of the Executive Committee.

Mr. Pierce, of Elmira, moved that the report be referred to a special committee of three.

Motion seconded and carried.

Report referred to a committee consisting of Mr. Kent, of Buffalo; Mr. Nolan, of Rochester, and Mr. Gouge, of Utica.

Secretary Carlin then read telegrams and letters of regret from absentees; also a communication from Secretary Bloor, of the American Institute of Architects, which read as follows:

MY DEAR SIR,—It is with great pleasure that, in behalf of the trustees of this Institute, I invite all members of your association to be present at the twenty-second annual convention of this Institute, to be opened in Buffalo on the 17th instant.

I should like to say that this invitation is also extended on behalf of the architects of Buffalo to remain over the three succeeding days and take part in the exercises of the Institute, and also in the entertainment which has been provided, not alone for the members of the Institute, but jointly with the members of the New York State Association. It was not deemed expedient by our local committee to entertain two bodies on days so closely coinciding. I wish it distinctly understood that this entertainment has been just as freely provided for the members of this association, and they are just as much a part of the body to be entertained as the members of the American Institute.

The invitations from the Institute and from the Buffalo architects were referred to a special committee

The election of officers being in order, two nominating committees were appointed by the chair.

The chair appointed as a first committee: C. E. Colton, of Syracuse; J. H. Pierce, of Elmira, and T. I. Lacey, of Binghamton. As the second committee: E. A. Curtis, of Fredonia; W. S. Wicks, of Buffalo, and Otto Block, of Rochester.

Edward A. Kent: The committee appointed by the chair to consider the Executive Committee's report would like to move that the report be adopted as read and filed.

The motion was carried.

President Cutler: The nominating committees will please hand in their reports, and the chair will appoint as tellers Mr. Randall, of Syracuse, and Mr. Walker, of Rochester.

Mr. Colton, on behalf of the first nominating committee, reported the following ticket:

For president, James G. Cutler, Rochester; for secretary, W. W. Carlin, Buffalo; for treasurer, Otto Block, Rochester; for first vice-president, Frederick Gouge, Utica; for second vice-president, J. H. Kirby, Syracuse; for members of the executive committee, E. A. Curtis, of Fredonia, and Otis Dockstadter, of Elmira.

The second committee made the following report:

For president, James G. Cutler, of Rochester; for secretary, W. W. Carlin, Buffalo; for treasurer, C. E. Colton, Syracuse; for first vice-president, C. K. Porter, Buffalo; for second vice-president, O. K. Foote, Rochester; for members of executive committee, T. I. Lacey, Binghamton, and L. P. Rogers, Rochester.

Mr. Colton, of Syracuse: While I don't think the honors of this association should go begging, I think an important office like that of treasurer should be held by some one who has more time, and is equally qualified for the office with myself, and I would like to withdraw my name unqualifiedly, and in some way have another name substituted in that report. I fear my time will be very much engaged this next year — perhaps a little more, even, than some of the other members of the association—and I will be more or less employed by a commission in which my time will not be altogether my own, and I hope it will be the sense of the convention to vote for Mr. Block, of Rochester, if my name is not dropped.

President Cutler: I don't see that Mr. Colton has any remedy but to put himself into the hands of the meeting. I think it ought to be strictly understood that the work of these nominating committees is not necessarily final. I don't see why this meeting should not listen to any other nominations any one chooses to make, or that any one should limit his ballot to any of the names put up.

Mr. Curtis, of Fredonia: I move that the secretary be directed to cast the ballot of the convention for Mr. Cutler as president.

The motion was carried.

Mr. T. I. Lacey: I move that the president be directed to cast the ballot of the convention in favor of Mr. Carlin as secretary.

President Cutler: I put this motion with great pleasure. Certainly no one has so well served the interests of the association or had them so much at heart as Mr. Carlin.

The motion was carried unanimously.

Mr. Block, of Rochester: I heard Mr. Colton mention my name, but I was not here when the first list of officers was read off. I hope everybody will vote for Mr. Colton, as he has performed the duties of the office of treasurer so well. If I had had a chance to put in my say first, I think I would have forced Mr. Colton right in.

Mr. Walker: The whole number of votes cast for the office of treasurer is 29, of which Mr. Block receives 22 and Mr. Colton 7.

Mr. Block was declared duly elected.

Mr. Walker: The whole number of votes cast for first vice-president is 29, of which Mr. Gouge has 17 and Mr. Porter 12.

Mr. Gouge was declared elected.

Mr. Walker: The whole number of votes cast for second vice-president is 29, of which Mr. Kirby has 20 and Mr. Foote 9.

Mr. Kirby was declared elected.

Mr. Walker: The whole number of votes cast for members of the Executive Committee is 57, of which Mr. Curtis has 16, Mr. Lacey 14, Mr. Rogers 13, Mr. Dockstadter 12 and Mr. Pierce 2.

President Cutler: Mr. Curtis and Mr. Lacey are declared elected.

Mr. Bethune: I move the adoption of the treasurer's report and the discharge of the committee.

The motion seconded and carried.

The report of the committee upon official publication of current matters regarding the association, of interest to members, recommended the acceptance of the offer of the *Architectural Era*, which would devote a page or more to the use of the association each month.

Mr. Porter: I move the adoption of the report of the committee, with the understanding that the secretary of the association be the editor; then everything would at least come through one of the Executive Committee, and there would be nothing that would be detrimental to the association.

The motion was seconded and carried, and Mr. Carlin was made editor of associetion matter.

Mr. Kent: The Committee on Competition, after considerable discussion on the matter, came to the conclusion that the wisest thing to do was to suggest the adoption of the report of the Western Association, in that is embodied all the important points, and we ask the association to adopt that report. As to this report, individually, there are some minor points that we would be glad to have seen changed; but we consider the desirability of unity in action in a matter like this should override any personal preferences. We think our report is sufficiently comprehensive to cover the important points—most of the important points—and we therefore suggest that the Western New York Association adopt the Western Association for competition intact. That code I desire to read—the code of the Western Association begins on the fourth line of the second page, "Competition be conducted under the following code."

The secretary read the code adopted by the Western Association at the St. Louis convention.

Mr. Colton: It seems to me that it is pretty late to enter into an argument or discussion into the merits of this report. As far as I am concerned, personally, if the rest of the members want to vote on the adoption of this code, I am perfectly willing; but it seems to me that it would be well to leave that for a later meeting, and give us all time to familiarize ourselves with it. If it is to be discussed and decided point by point, certainly we have not got time to do it tonight. I simply make the suggestion that it wouldn't be proper. I don't make that motion.

After a long discussion, the report was tabled, to be taken up at the February meeting, and, meanwhile, the members of the association resolved to enter into none but paid competitions.

The meeting closed with a vote of thanks to the American Institute for a cordial invitation to attend the meetings of that association, and to the trustees of the Buffalo Library Association for the use of the convention hall.

On motion of Mr. Walker, the next meeting of the Association will be held at Rochester, first Tuesday in February. The meeting then adjourned.

Association Notes.

CHICAGO ARCHITECTURAL SKETCH CLUB.

The regular meeting of the Chicago Architectural Sketch Club was held October 8, President Beaumont in the chair.

The communication from the New York Architectural League Exhibit was read by the secretary, which invited members to send drawings to that exhibit.

On motion, the president appointed a committee of six to receive, adjudicate and hang drawings at the coming exhibit of the club, consisting of W. G. Williamson, F. L. Linden, C. A. Kessell, T. O. Fraenkel, W. B. Mundie and E. J. Wagner.

On motion, the president appointed a banquet committee, consisting of E. J. Wagner, C. A. Kessell and George Beaumont.

H. L. Gay was made an honorary member of the club.

At the regular meeting of the club, October 22, W. B. Mundie read a paper on originality in design, which was well received and generally discussed. It will be printed in the November issue of THE INLAND ARCHITECT.

The following circular letter has been issued to members by Secretary Williamson:

To the members of the C. A. S. C. CHICAGO, October 15, 1888.

The committee on exhibit are desirous of securing a large number of drawings, and hope that the members will submit their portfolios to the committee on or before Saturday, November 10, at club rooms. Drawings can be framed or mounted on cardboard. This is not required of pen and ink sketches. Send one sketch if nothing more. You can lighten the work of the committee by bringing your drawings promptly. It is not necessary that they be architectural, as landscape, figures, details, etc., will be accepted. Copies will be excluded. The honorary members will receive their invitation to the banquet in due season, and will confer a favor on the committee by an immediate reply to the same. Senior, junior and honorary members are exempt from any special assessment for the banquet. The next meeting of the club will be Monday evening, October 22. Mr. W. B. Mundie will read a paper on "Originality in Design." Competition for "House Doorway" closes at this meeting. The following meeting (November 5) will be the annual business meeting, devoted to the election of officers.

Yours truly, W. G. WILLIAMSON,
Secretary C. A. S. C.

Main Entrance of the
Y.M.C.A Building
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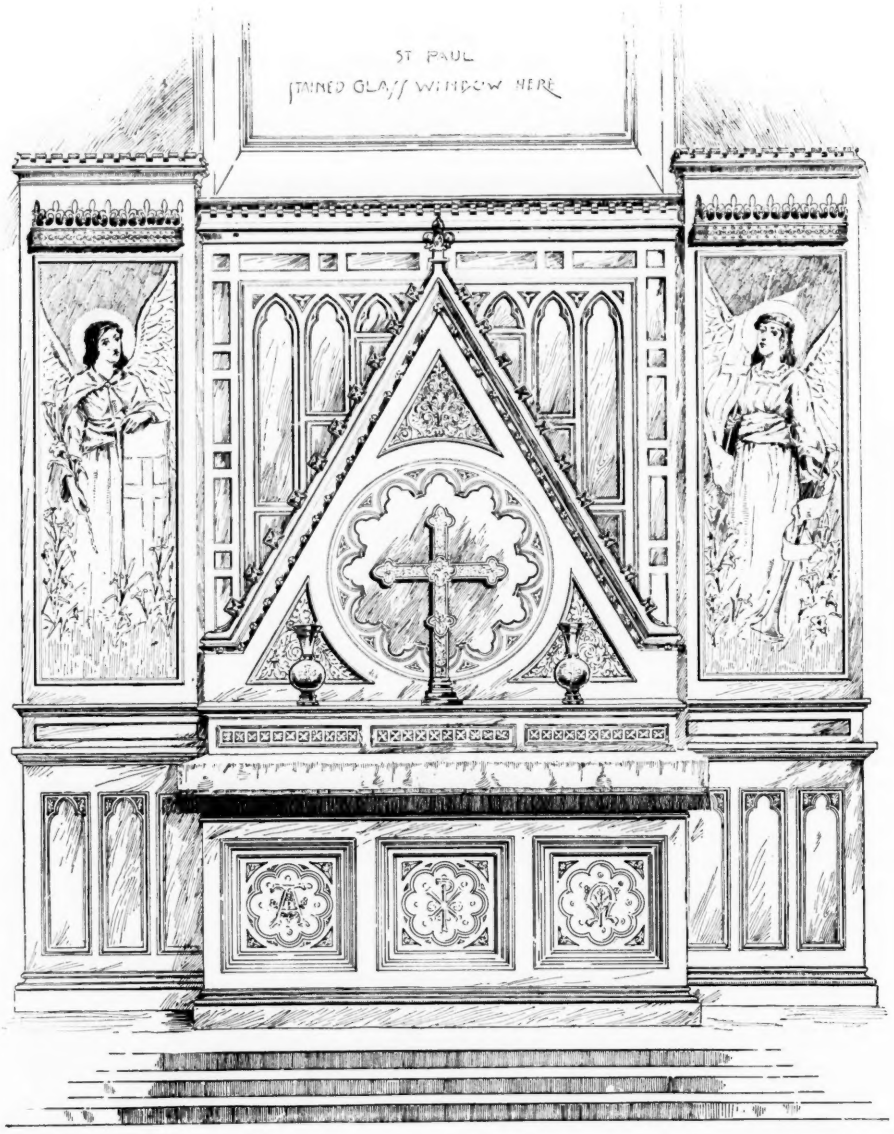
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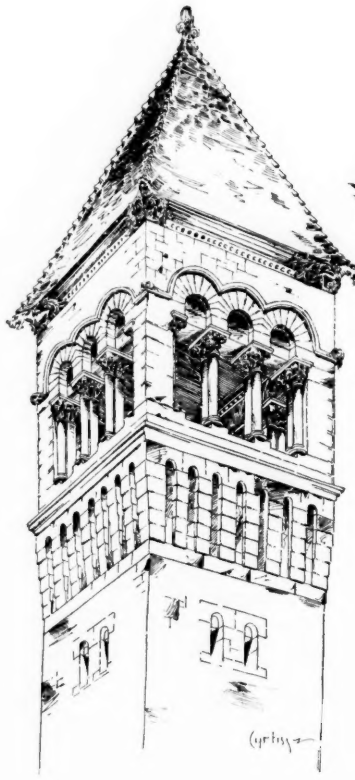
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GRACE
CHURCH.
A. Van. Brunt. Archt.
KANSAS CITY MO.

Twenty-second Annual Convention of the American Institute of Architects.

HELD AT BUFFALO, N.Y., OCTOBER 17, 18 AND 19, 1888.

FIRST DAY—MORNING SESSION.

THE Convention was held in the assembly hall of the Buffalo Library. It was called to order by President R. M. Hunt, of New York, who took the chair; Secretary A. J. Bloor, of New York, and about sixty members of the American Institute of Architects, being present. The president delivered the following address:

PRESIDENT'S ADDRESS.

Fellows and Associates of the American Institute of Architects:

When I consider the duties and responsibilities of the position which you have conferred upon me, and recall to mind the ability of my predecessors, it is with feelings of gratification and solicitude that I address you upon this occasion.

I beg you to accept my sincere thanks for the honor done me, and, relying upon your indulgence, will submit a few suggestions for your consideration.

But first it is my painful duty to record the loss of our late president, Thomas U. Walter, whose absence at our last convention was noted with profound regret. Mr. Walter was a man of sterling qualities, well fitted to carry out the many important works intrusted to his care. As one of the founders of this Institute he was ever diligent in furthering its aims, while his great experience, sound judgment, and genial manner endeared him to us all. To no one is the Institute more deeply indebted. The nation, too, owes him a debt of gratitude for the grand monuments from his hand which adorn the capitol. His was a noble example of a life devoted to high professional achievements, even to the sacrifice of personal interests; and let us hope that his claim now before congress will be considered in the same conscientious manner as his services were rendered.

We have, furthermore, to deplore the loss of John H. Sturgis and Carl Pfeiffer, fellows of the Institute, and among its most zealous supporters, whose works testify to their uncommon ability.

During the past year much has been done to elevate the standing of the profession. The many public and private structures throughout the land show marked improvement in design and construction, attesting not only the earnest zeal of the architect, but also the deep interest taken by the public in our art.

The higher culture of the public in matters of taste and art has led to certain improvements in that much-vexed question of competition.

It is already not unusual to solicit professional aid in these matters, to lay down the rules and award the prizes, so that all that is now required to insure its universal practice is the adhesion of the profession to those principles of self-respect which preclude the practitioner from taking part in any competition not properly organized.

This condition of affairs is due in part, also, to the stand taken for years past by certain members of the profession who have uniformly declined to respond to invitations to compete, except on proper terms. Such action must eventually command the respect of the public, and ultimately secure the desired end.

An unfortunate event of recent occurrence affords convincing proof, if any were needed, of the necessity of the employment of a clerk of the works on structures of importance, undertaken at distant points. The extra cost of a superintendent is trivial as compared with the risk attending the erection of a building where only an occasional supervision is given. A firm stand on this point would undoubtedly insure the employment of a clerk of the works, as is usual in Europe.

It is to be regretted that no signal success has been gained, during the past year, toward the much needed improvement of the method followed by the federal government in the design and erection of the public buildings. It would seem as though the mere fact of calling attention to the present method would insure a total re-organization of this department where so many millions are yearly expended. The wonder is that any person of good professional standing should accept the position of supervising architect, so absurd is it to expect any one man — be he ever so gifted — to properly fulfill the varied requirements of that office. Besides, the nation has a right to expect that the public buildings should at least be fair examples of the architectural talent of the country, while the profession has no less a right to the government patronage.

The establishment of a department of public works, as exists in other countries, would remedy existing evil.

A standard form of contract—a great desideratum—has been prepared by your committee appointed for that purpose at the last convention to act in conjunction with similar committees of the Western Association of Architects, and the National Association of Builders.

Among other benefits secured by the introduction of a uniform contract is that of diminishing the chances of misunderstandings arising between the owner and the contractor, and possible consequent litigation.

At the last convention your attention was called to the desirability of members furnishing all the information possible to the Board of Trustees concerning candidates proposed for admission to the Institute. Too great care cannot be exercised in this matter, as with increased membership our responsibilities multiply.

Another important matter which demands your attention is that proper compensation should be provided for the executive officer of the Institute, the secretary, whose duties, already very onerous, are daily becoming more so.

The reduction of the annual dues a few years since increased our financial difficulties. Might it not be advisable, therefore, under the circumstances, to augment the initiation fee and annual dues of the fellows and associates, and might it not be wise to require that all members of the Institute shall be members of some of its chapters, thereby strengthening the chapters and equalizing, while diminishing, the burden on individual members?

Let us now consider briefly the present condition of the profession, noting what has been accomplished, and what remains for us to do.

Since the foundation of the Institute in 1857, the standing of the profession has greatly improved. This is due in a great measure, if not chiefly, to the establishment of that good-fellowship among its members, which has led to professional esteem and healthy rivalry in place of a certain distrust formerly existing among members of the profession personally unacquainted with each other. If no other result had been accomplished, we should have reason to congratulate ourselves.

The establishment of mutual respect and personal consideration among the members of the profession has led to the following, among other benefits, to the community and to the profession, namely:

Progress in architecture, its cognate arts and industries.

The establishment of a proper schedule of charges and improvements in the building laws.

While the growing interest in architecture, shown by individuals and corporations, has led to art publications and the establishment of technological and art schools.

Still much remains to be done to secure for our noble profession that high position which it justly holds in the Old World.

Toward this end, it is of paramount importance that all the architectural societies of the country should be under one direction.

The old adage, "In unity there is strength," is especially applicable to us.

Our united efforts to reorganize the government method in regard to public buildings should be unceasing until crowned with success.

A bill "To establish a national art commission," to report on plans of public buildings, monuments and works of art, has passed the senate and is now before the house of representatives; it is hoped that it may become a law.

A similar commission should be established in every community to insure correct designs and good construction.

A striking proof of the necessity of such a board is furnished by the present chaotic state of the proposed library at Washington. The capitol at Albany furnished another example.

Such condition of affairs would hardly have been possible had these buildings, from the start, been intrusted to a competent commission, comprising one or more experienced men of our profession.

Striking blunders of this sort are of too common occurrence — of buildings costing double the amount proposed to be expended, others unfit oftentimes for their intended use, etc., and although the architect is not infrequently blamed for those mistakes, the fault generally is attributable to the incompetency of the committee in charge.

The attainment of these two objects is of the greatest importance, and we should do all in our power to accomplish them. It is a duty we owe to the public, who should be ever ready to give us aid and support, and who should rightfully expect us to direct in matters relating to our craft.

A more direct and lively interest should be taken by the profession in the architectural and technical schools, which have already attained to a high degree of excellence under the able direction of those in charge of them.

Lectures and conferences by the active members of the profession might accomplish much in the training of those who so soon are to take our places.

In conclusion, we have reason to be satisfied with the results of your past labors.

Let us, therefore, take renewed courage and steadfastly pursue our good work, each and every member remaining loyal to our motto "Truth and Unity."

The secretary, Mr. A. J. Bloor, of New York, then read the twenty-second annual report of the Board of Trustees, which gave in detail the association work of the year. He was followed by the treasurer, Mr. O. P. Hatfield, of New York, who read his annual report, which showed the association to be in a good financial condition. It showed the available funds of the year to be $1.975 88, the total disbursements $1,738.17, leaving a balance in the treasury of $326.21. The cost of publishing the proceedings of the last annual meeting was $346.

On motion of Mr. Bloor, the report was referred to an auditing committee, consisting of L. T. Scofield, of Cleveland; J. G. Cutler, of Rochester, and Alfred Stone, of Providence.

A letter from Professor Comfort, of the College of Fine Arts in Syracuse, regarding architectural education, was then read by Secretary Bloor. The secretary then read the annual report of the Committee on Publications.

Mr. Kendall: I move that the report of chapters be referred to a special committee without reading them at present, so anything of importance may be presented to the Convention later, in order to save time.

The motion was presented and carried.

Secretary Bloor stated that Mr. Jenney had written some funny letters about the report of the secretary for foreign correspondence, but Mr. Roach had sent no report.

Secretary Bloor then read the report of the special committee on consolidation of architectural societies.

Mr. Stone, of Providence: I move that the report be referred to a special committee, to print so much of it as lays out a plan submitted, and that those papers be here upon our table tomorrow morning, or else be in our parlors at the Genesee this evening. It is not a long matter to print, and there is no way to consider it without having it in our hands.

Mr. Briggs, of Bridgeport: I move that we have a special meeting this evening at half-past eight to consider this most important matter.

Motion was seconded and carried.

The report of the special committee on bill to provide improved methods in the architectural service of the federal government was then read by Secretary Bloor, as follows:

REPORT OF SPECIAL COMMITTEE ON BILL TO PROVIDE IMPROVED METHODS IN THE ARCHITECTURAL SERVICE OF THE FEDERAL GOVERNMENT.

To the American Institute of Architects:

The undersigned committee, appointed to prepare a bill, in coöperation with the committee of the Western Association of Architects, to provide improved methods in the architectural service of the federal government, respectfully report:

That the said committee has consulted and coöperated with a committee of the Western Association, and that the committees, jointly meeting at the office of the Institute on April 19, 1888, agreed to the following bill:

A Bill to Regulate the Construction of United States Postoffices, Court Houses and Custom Houses under the control of the Secretary of the Treasury.

SECTION 1. Be it enacted by the people of the United States in congress assembled, that from and after the passage of this act, all bills for the construction of a public building, for postoffices, United States courts and custom houses, and for all other purposes connected therewith, costing $50,000 or more, in the United States and territories, shall be subject to and governed by the provisions of this act, and all existing laws now in force and conflicting herewith are hereby repealed.

SEC. 2. The secretary of the treasury shall, immediately after the passage of this act, by the advice and consent of the president of the United States, appoint an architect of known ability and integrity, whose title of office shall be that of supervising architect of the United States Treasury Department, and whose compensation shall be $6,000 per annum, and whose term of office shall be four years from the date of his appointment.

SEC. 3. It shall be required of the supervising architect, upon his taking the oath of office, that he shall be subject to existing laws governing other officers in the service of the United States requiring competent and faithful service, and shall at all times be subject to removal from office for cause.

SEC. 4. The secretary of the treasury shall, as soon as practicable after the passage of this act, cause to be provided suitable quarters, properly lighted, heated and ventilated, and with fireproof qualities, for the proper conduct of the supervising architect's bureau, and the sum of $100,000 is hereby appropriated and made available from and after the passage of this act out of any moneys in the United States treasury not otherwise appropriated, to carry into effect this provision for the necessities of the supervising architect's bureau.

SEC. 5. It shall be the duty of the supervising architect to appoint, with the advice and consent of the secretary of the treasury, one assistant supervising architect, and such other assistants as the duties of the office, both in regard to design and construction, may require, and the sum total of whose compensation shall not exceed $50,000 per annum, which sum is hereby appropriated and made available from and after the passage of this act, out of any moneys in the treasury of the United States not otherwise appropriated.

The duties of said officers shall be designated by the supervising architect, who shall select as such officers men of known integrity and of knowledge and experience fitting them for the special duties of the positions assigned to them.

SEC. 6. It shall be the duty of the supervising architect and the assistant supervising architect, together with the secretary of the treasury, to act as a board to carry to successful completion the construction of the buildings that are already, or that may be, authorized by law, including all alterations, additions and repairs, and which are under the charge of the treasury department; and the assistant supervising architect shall act as supervising architect in the absence of that official.

SEC. 7. It shall be the duty of the said board to formulate rules and regulations, which shall govern the supervising architect's office in its management, and which shall obtain public competition, after public advertisement, on all work and materials entering into the construction of said buildings, the alterations, additions and repairs to the same, including the purchase of all sites, the building proper, the approaches, and heating, plumbing, lighting and ventilating apparatuses; and said rules and regulations shall embrace suitable forms of contracts and bonds, and provide for the letting of all contracts to the lowest responsible bidder fully complying with the terms therein set forth, and which contracts in all cases shall be approved and signed by the secretary of the treasury and the supervising architect.

It shall be the duty of the supervising architect to furnish, at the expiration of each fiscal year, a full and complete report of all transactions of business in detail in the said department, together with the statistics of the public business, wherever the erection of a suitable building is required in any location in the United States and territories; and said statistics shall be accompanied by a recommendation from the supervising architect, in each case, as to whether it will be more economical for the government to purchase a site and erect thereon a suitable building, or to rent from private parties, suitable quarters

for proper transaction of the public business; and in each case where a recommendation shall be made in favor of the erection of a suitable building, the estimated cost of the site, and the cost of the building separately and expenditure on account thereof, shall accompany the said recommendation, which recommendation shall be transmitted to the secretary of the treasury, and by him furnished to the congress of the United States for its information.

SEC. 9. It shall be the duty of the supervising architect, together with the said board, to invite competition for the planning of all said buildings, which may be estimated to cost $50,000, or in excess of that amount, which competition shall be confined to the architects of the United States; and all said competitions shall be governed by the rules and regulations formulated and approved by the said board, which rules and regulations shall give suitable time for the preparation of drawings and illustrations, and shall determine the premiums or other inducements to be offered to the competing architects. Upon the delivery of the competitive plans at the office of the supervising architect, the said board shall appoint a committee of four expert architects, who shall, with said board, consider the same, and the said board and committee shall, with the written approval of the postmaster-general and attorney-general of the United States, select and adopt the best and most suitable plans, in their judgment, for the buildings; and the architect whose plans shall be thus selected and adopted, shall be appointed the architect and superintendent thereof, and shall continue in office during the construction of said building, unless removed by the supervising architect for cause, and shall receive as compensation in full for all such service the usual percentage paid to reputable architects in private practice, not to exceed in any case five per cent of the cost of the building, which, together with the expense of said competition shall be paid from the appropriation thereof.

If the author of the accepted design should not be, in the judgment of the board and committee, a person of sufficient artistic or constructive or administrative capacity, then an associate architect shall be appointed by said board, and the compensation of such associate shall be, in each case, determined by said board, and shall be deducted from that of the author of the accepted design.

SEC. 10. It shall be the duty of the supervising architect, together with the said board, in the selection of all sites and plans for new buildings contemplated by this act, to consider the future growth of the public business and to make suitable provisions for the same in both site and building, and they shall cause to be prepared and retained in the office of the supervising architect copies of all plans of buildings and plats of grounds, so that records may be available when required by the future growth of the necessities and business of the United States.

Your committee then decided to meet the committee of the Western Association at Washington, D. C., with the view of progressing said bill and making such further amendments and alterations as inspection of the working of the supervising architect's office might suggest.

On April 23, 1888, the two committees met, by sub-committees with power, in Washington.

Present, on behalf of the American Institute of Architects: A. J. Bloor, Emlin T. Littell. On behalf of the Western Association of Architects: P. Adler, J. F. Alexander.

The following day the two committees had prolonged interviews with Mr. Freret, Fellow A. I. A., supervising architect of the treasury department, who freely laid before them all the workings of his office and called attention to numerous changes with a view to improvement in methods which he had made, or hoped to accomplish, and also to a bill prepared by him and introduced in the house of representatives March 24, 1888, a copy of which is hereto appended.

Your committee, however, coincided with its co-laborer, that there was little hope of complete success in the architectural work of the government, especially on its artistic—that is its highest—side, from the constitution of the principal office, no matter how well administered by the present or other incumbent.

The result reached by the two committees was a unanimous agreement that the calendar of bills before congress was too crowded to allow any chance for a bill introduced during the remainder of the current session to be reached.

That any bill, to be favorably considered, must be general in its provisions, leaving the working out of the details in the hands of the department. That any bill must, to have a chance of enactment, be very moderate in its provisions, congress in its multitude of cares not having yet had the opportunity to give exhaustive study to the protection of the architectural interests of the United States.

That the above bill, while not perhaps as perfect as might be produced, is substantially drawn on the line of advance, and is as thorough as is likely at present to meet with favor from the careful legislator of today.

A. J. BLOOR,
R. G. HATFIELD,
E. T. LITTELL,
M. E. BELL,
LEVI T. SCOFIELD,
Committee.

The committee recommend that the above committee be retained for future action.

LEVI T. SCOFIELD,
ADOLF CLUSS,
AUGUSTUS EICHHORN.

Appended to the above report of the Committee on Federal Architecture, was the following bill, with the prefixed report from the committee on Public Buildings and Grounds submitted by Mr. Dibble, March 24, 1888, read twice, referred to the house calendar, and ordered to be printed. Fiftieth congress, first session, H. R. 8831.

The Committee on Public Buildings and Grounds, to which was referred a letter of the secretary of the treasury (House Ex. Doc. 196), transmitting a letter from the supervising architect, recommending legislation in regard to contingent expense for superintendence of public buildings in process of erection, has carefully considered the same, and in response thereto, respectfully submits the bill accompanying this report.

The maximum rates provided for by the bill, while liberal enough to meet all cases, will cause a very great saving in comparison with past expenditures for the purposes named.

It will also tend to expedite the work of construction, while a per-diem compensation for superintendence may tend in some cases to delay completion. If this bill become law, money cannot be paid for superintendence, except in proportion to the advance of the work, while at present a superintendent may receive his daily salary, although work may be temporarily suspended for a considerable time. An investigation will show that the principal reason why public buildings cost so much more than other buildings is because of unrestricted expenditures outside of the actual work of erection. For this evil the bill submitted provides, in part, a remedy.

The committee therefore recommends its passage.

A Bill Relating to Superintendence of Construction of Public Buildings.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in all buildings erected under the direction of the secretary of the treasury, he is hereby authorized and directed to cause to be set apart, from the moneys appropriated for each building, a superintendence fund for such building, from which fund alone, and from no other moneys whatsoever, shall be paid all expenses of superintendence of construction, including professional and clerical services, foreman, traveling expenses, examination and testing of materials, and all incidental expenses pertaining to the inspection and supervision of work, and reports thereon, but not including watchmen, when necessary; and the maximum amount of the said fund for each building shall be in proportion to the limit of cost of erection of such building, exclusive of the cost of site, as follows:

Five per cent of all sums appropriated for the erection of buildings limited in cost to $50,000, or less;

Four and three-fourths per cent of all sums appropriated for the erection of buildings limited in cost to $100,000, or less, but more than $50,000;

Four and one-half per cent of all sums appropriated for the erection of buildings limited in cost to $150,000, or less, but more than $100,000;

Four and one-fourth per cent of all sums appropriated for the erection of buildings limited in cost to $200,000, or less, but more than $150,000;

Four per cent of all sums appropriated for the erection of buildings limited in cost to $250,000, or less, but more than $200,000;

Three and three-fourths per cent of all sums appropriated for the erection of buildings limited in cost to $300,000, or less, but more than $250,000;

Three and one-half per cent of all sums appropriated for the erection of buildings limited in cost to $350,000, or less, but more than $300,000;

Three and one-fourth per cent of all sums appropriated for the erection of buildings limited in cost to $400,000, or less, but more than $350,000;

Three per cent of all sums appropriated for the erection of buildings limited in cost to $450,000, or less, but more than $400,000;

Two and three-fourths per cent of all sums appropriated for the erection of buildings limited in cost to $500,000, or less, but more than $450,000;

Two and one-half per cent of all sums appropriated for the erection of buildings limited in cost to any sum exceeding $500,000, or appropriated in excess of the limit of cost previously fixed by law, or where no limit of cost has been fixed by law: *Provided*, That where a building is in process of erection at the time of the passage of this act, then the sum to be so set apart shall be rated as aforesaid, in proportion to the balance remaining unexpended of the sum fixed by law as the limit of cost of such building, without reference to any expenditures for superintendence incurred prior to the passage of this act.

SEC. 2. That the total expenditures at any time from the superintendence fund of any building, when compared with the total expenditure at the same time in the construction of such building, shall never exceed the percentage prescribed for superintendence of construction of such building in section 1 of this act.

President Hunt: To interrupt the regular order of business, I now have the honor of presenting to you the Hon. Philip Becker, mayor of Buffalo, who will address you.

Mr. President and Ladies and Gentlemen: It is a pleasure to me to welcome you to the city of Buffalo. When I say I welcome you to the city of Buffalo, I mean that the citizens of Buffalo always welcome those who wish to hold their conventions here or visit or stay here, either for pleasure or for business. We have a small place, it only contains about forty square miles. We have less than five hundred miles of streets, but over four hundred and fifty miles. We have a great many sewers and a great many miles of street paving, probably three-quarters of the streets that are properly laid out are paved at present. We have a good system of street railroads, and the horses and the cars will average as well as any city in the Union. Now, you gentlemen have come here to see whether Buffalo, and whether there are any advantages here for you gentlemen to come here, to move to Buffalo, and to make Buffalo your home. We have also a small park which will be shown to you by our Buffalo architects and friends. We have also a Niagara river which furnishes the water, and probably will compare favorably with any other water. Sometimes it changes color, and it always makes a good drink, and your friends may be able to show in what way that water is changed in our river. I see you are in the hands of friends, and those friends will take great care of you, and I will say that it is due to you, gentlemen, that we have some fine buildings in Buffalo and other cities. If it wasn't for the architects, I think we would have the old log cabins today, and not the splendid edifices which have been erected within the last few years. I hope Buffalo architects will take charge of your proceedings here during your stay, and try to excel all others over the United States, so as to induce you to come here and live with us. Let me say again, I heartily welcome you to the city of Buffalo, and extend to you the hospitalities and freedom of the city, and may your stay be pleasant, so that when you have returned home you will say to yourselves Buffalo is a good place to hold conventions in; and come back and see us again. (Applause.)

President Hunt: In the name of the Institute I would express our thanks to you, and we extend to you a welcome to join us in our visit to Niagara Falls this afternoon if so inclined.

Mayor Becker: I should be glad to accept the invitation but for some important business I have to attend to. My time is not my own.

O. P. Hatfield, of New York, then read the report of the committee on a uniform building contract prepared jointly by the Institute, the Western Association of Architects, and the National Association of Builders. It is as follows:

REPORT OF COMMITTEE ON UNIFORM CONTRACTS.

To the Twenty-Second Annual Convention American Institute of Architects:

The undersigned Committee on Uniform Contracts, appointed at the twenty-first annual convention to confer with like committees from the Western Association of Architects and the National Association of Builders, beg leave to report as follows:

Early in the present year, through an extended correspondence with each other, your committee prepared and had printed a form of contract to serve as a suggestion to the other committees of what, according to the views of this committee, such a form might be. The correspondence then became general between the three committees, but principally between the chairman of your committee and the secretary of the National Association of Builders, in which body the movement for uniform contracts originated.

It was finally concluded to have a meeting of the committee at New York, and such a meeting took place at the rooms of the Institute, No. 18 Broadway, in that city, on June 6. There were present at this meeting, Messrs. Windrim, Stone and Hatfield of the Institute, Messrs. Treat and Clay of the Western Association of Architects, and Messrs. Stevens, Prussing and Tucker of the National Association of Builders. The secretary of the Builders' Association was also present, Mr. William H. Sayward. On motion of Mr. Stevens, a member of your committee was elected chairman, and Mr. Sayward, secretary of the joint committee.

The committee thus organized proceeded to discuss the subject that had brought them together, using the form already prepared by your committee as a basis, and continued their sessions through two days and one evening, until they had brought the form of contract sought for into a satisfactory shape, and then referred it to the chairman and secretary, as a sub-committee, to have it printed and again submitted to the members of the committee for their further consideration.

After a close scrutiny and a few alterations and amendments, the form was again sent to the press and adopted as so finally printed. An edition of sample copies amounting to 3,800, together with an explanatory circular, were then printed and distributed to the members of the three associations from which the committees emanated by their respective secretaries.

It was then determined by the joint committee that the best way to secure the integrity of the text, and to prevent alteration (except in writing), was to have it copyrighted; also, that after having fixed a schedule of prices for its sale, including therein a royalty payable to the committee, and amounting to a sufficient sum to defray the committee's expenses, its publication should be intrusted to a printing establishment of sufficient capacity and energy to supply the form to the profession and the public, and at the same time give it the requisite amount of advertising.

It was not supposed possible that the committee could control its text in any other way than by making a contract with its publisher, in the form of a license, which should carry a penalty of forfeiture for any unauthorized alteration of any of its clauses, and simply impossible to so control it, if the right of publication should be made general to the printers of the country, or to any considerable number of them.

The offer of a printing-house in Chicago, well known as publishers of an architectural journal, was considered as filling all the conditions required, and being favored by a majority of the committee, it was accepted, and the blanks are now being supplied by them at the prices agreed upon. As this action has been somewhat criticised, it is due to the committee to be permitted to make this explanation, and for them to state that they believe it to be the best that could have been made under the circumstances.

In regard to the value of the form itself, the committee are gratified to learn that it is being adopted by many of the most influential members of the profession and firms of architects in the country, and is considered as essentially impartial and fair for the interests of both the owners of buildings and the contractors for their erection. Although there is some difference of opinion as to the advisability of including in it some few of its phrases, it is still thought to be upon the whole a useful form, and one that will serve the needs of both architects and builders. As to the latter, it may be said that it will make their estimating much more simple and satisfactory if it should become a standard form, and at the same time contribute to a better understanding between all parties concerned.

To continue the control of the form thus created, it will be necessary for the respective associations from which the joint committee was appointed to make such committee a standing committee. Your committee, therefore, conclude by proposing the following resolution:

Resolved, That the Committee on Uniform Contracts be and it is hereby made a standing committee of the Institute.

Respectfully submitted,
(Signed) O. P. HATFIELD,
ALFRED STONE,
J. H. WINDRIM,
Committee on Uniform Contracts.

Secretary Bloor then read the report of the special committee on formula for chapter reports, also the report on providing a permanent

home for the Institute, and Mr. Kendall then read the report of the committee on indemnification of Mr. Bloor.

Mr. Briggs moved that the committee to consider these reports be appointed by the chair.

The motion was carried.

Mr. Adler, of Chicago: To deprive the election of officers of the Institute of the perfunctory character which it usually has, I move that two committees on nominations be appointed by the chair.

The motion was seconded and carried.

The chair appointed the following committees on nominations:

First committee: Messrs. E. L. Nickerson, of Providence; Sidny Smith, of Omaha; J. W. McLaughlin, of Cincinnati.

Second committee: Dankmar Adler, of Chicago; E. H. Kendall, of New York; Alfred Stone, of Providence.

The reports of the Board of Trustees and Chapters were referred to a committee consisting of George A. Frederick, of Baltimore; W. R. Briggs, of Bridgeport; W. W. Carlin, of Buffalo.

The report of the Committee on Consolidation of Architectural Societies was referred to a committee consisting of D. Adler, of Chicago; J. G. Cutler, of Rochester; Alfred Stone, of Providence.

All other reports were then referred to a committee consisting of Levi T. Scofield, of Cleveland; Adolph Cluss, of Washington; A. Eichhorn, of Orange, N. J.

Mr. Adler: Under the laws of the association I believe an associate cannot serve on any of the committees.

Mr. Bloor: We won't draw the lines too close. If that is the rule it ought to be changed.

President Hunt: In the place of Mr. Adler, of the second nominating committee, I will put Mr. Gay, of Chicago, and in the place of Mr. Adler on the committee on consolidation, Mr. Littell, of New York.

Mr. Carlin, of Buffalo, announced that the train for Niagara Falls would leave the Terrace station at 2:20 P.M., and all members having ladies were requested to bring them, and on motion, the convention then adjourned to meet again at 8:30 P.M.

FIRST DAY — EVENING SESSION.

The convention was called to order at 8:50 P.M., President Hunt in the chair, with a full attendance of members.

President Hunt: The business before the convention this evening is the report on the consolidation of architectural societies. Shall this report be read in full or shall we take it up in sections?

Mr. Stone: I move that the report be taken up in sections, beginning with the words, "The following are the items of the formula now submitted to your consideration and discussion."

The motion was seconded and carried.

The secretary read the first section.

Mr. Kendall: I move the adoption of this section as read.

Mr. Stone: I suppose we are taking this up at this time not finally to adopt it, but to get at the sense of the meeting.

Mr. Briggs: It seems to me it would be well in that connection to have a little discussion as to the advisability of adopting this. I should like to hear the opinions of the members in regard to adopting it.

Mr. Adler: To bring this matter before the meeting as a subject of discussion, I will present this resolution:

Resolved, That this convention deems a unification or federation of all the architectural associations of the United States a matter of extreme desirability and importance.

Mr. Stone: It is utterly impossible for us to adopt this at this session, as I understand it. It was for this reason that I thought we might run through this thing, and in the course of it bring out all discussion needed on the matter, and put the matter in some shape for another year. All we can do tonight is something of that kind, and before we get through with the discussion of all the clauses in here I think we shall arrive at the feeling regarding this report.

Mr. Littell: I understand this report was referred to a special committee, and in order that that committee can act wisely it ought to be made better informed of the views of all the members, and some informal discussion without any motion being made might be allowed for the purpose of informing the committee.

Mr. Briggs: It seems to me it is unnecessary to go into this matter in detail. We have a general idea what this report is in our own minds. If we can get a general discussion regarding this we will see what the members of our Institute will have to say about it. There are three elements which have got to enter into this from different sections of the country, and I think a little discussion from them will throw some light on this.

Mr. Kendall: I am not here to enter into a general discussion upon this matter, but I would like to hear what can be said upon the subject. I don't think all of us are prepared to say at once there should be a union. I know I am not yet so prepared.

Mr. Briggs: I would call upon Mr. Adler, a member of this committee, to express his views as to how the West feels with regard to consolidation.

Mr. Adler: I really can only speak for myself. The matter was brought before the Western Association of Architects by Mr. Burnham and myself, and two or three others who were in favor of this consolidation. There has been no more opportunity for discussing the matter before the Western Association than there has been before the Institute. The convention of the Western Association at Cincinnati took place about a month after the last convention of the Institute. The resolution creating the committee which has reported to you today was also presented to the Western Association and was there passed, and a committee was appointed, of which I have the honor to be a member, and our convention this year has not yet taken place. It will be in about a month from now, and until then we shall have no opportunity of learning what the sentiments of our people are. We are in precisely the same condition as you are. (I am somewhat in the position of Poo-Bah here.) Inasmuch as the convention of the Institute takes place a month sooner, it becomes almost a necessity for the Institute to take the initiative. I think it is but proper, and I don't think the Institute will in any way be giving away any of its prerogatives or lessen the dignity of its position by discussing this matter and expressing its wishes before the Western Association had done so. If nothing is done this evening or at this convention of the Institute, then the Institute will have no opportunity of expressing its views until a year from now. Yet it may be that when the matter comes to be presented to the Western Association, the Western Association will also feel that it ought not to express an opinion as to whether it desires a consolidation until the Institute has said something about it. If we can't have a joint convention or conventions held simultaneously at least, one or the other body must express its preference first. I believe myself in the desirability of this unification. I believe that one large representative body of our profession will be more powerful for good than two or three small ones. I think for the present both these bodies, that is, both the Institute and the Western Association, possess a certain fictitious element of membership, that is, there are many of us who are members of both organizations. Well, some time or other some of us, perhaps all of us, will grow tired of that and will belong to only one organization, and should that ever be the case, there will be a certain rivalry between the two organizations that can only lead to unpleasant jealousies and bickerings, and, in any event, whether we are on a friendly footing or on one of enmity and jealousy and mutual distrust, no matter what it is, we shall be stronger tonight if we are both working in the same plane for the same purpose. We can work to better advantage if we meet as one body than as is shown this evening by the apparent hesitancy on our part to accept the action of the Western Association. It will be difficult for us to act in concert, each will be afraid of doing something which will not be followed by the other. For the present we are working on the same lines, our committees are in harmony and there has been no clashing, but still it is evident that we are not accomplishing all for the good of the profession that we might if we were united. Suppose circumstances do occur, as they have in the history of similar organizations, and as they are very apt to again, that misunderstandings arise and the harmony which now exists terminates; then suddenly the efforts of both organizations will be directed to the best means of injuring the other, instead of the best means of furthering the common interest. But if we unite we forestall that possibility, and we put ourselves in position to stand before the public at large, before our clients, and before the world, as one great organization. I think that particularly the American Institute, which was founded, as I understand, with the intention of becoming the representative organization of the architectural profession in America, should do all in its power to bring under one organization and one control all architectural associations that had been formed within the last few years. It is preëminently our duty as members of the American Institute to enlarge the scope of that Institute. I will say right here that, while as a member of the Western Association committee I have myself proposed that the name of the new federation shall be the American Institute of Architects, and while Mr. Burnham, who is a leading and influential member also of the Western Association, holds a similar view, I am not at all certain that we will be supported in that by a majority of our organization, though I think we can carry the day. I think if the unification is carried out it will be the one that passes here, but it certainly cannot be brought about unless the Institute as such shows a desire for bringing it about. I hope and trust that the action of the Institute this evening will be in favor of this consolidation.

Mr. Cutler: I should like to make this suggestion right here. It seems to me that unless we wish to reconsider the action which was taken at the last convention, it is a little late to ask whether the Institute is in favor of this consolidation. At the convention in Chicago a committee was appointed to report as to the best and speediest method of consolidating all the architectural societies of the United States, and to invite a similar committee of the Western Association to act with them. It seems to me by that action the Institute is definitely committed to a policy of consolidation, and all we have now to do is to consider this plan as submitted by this committee upon the lines on which this proposed consolidation is to be made.

Mr. Adler: In view of that suggestion of Mr. Cutler's, I think I will withdraw my motion.

President Hunt: In order to get the general views of the convention, perhaps some member of our eastern chapters will say something.

Mr. Frederick: I am in accord with what Mr. Adler has said. At the last meeting of the convention, and I think the subject was first broached in New York at the previous meeting of the convention, a desire was expressed by many members of the Institute that it would be a very good thing if a combination could be effected between the different architectural societies of the country. I have always held that view, and I hold it today just as firmly as I held it three years ago, and I think there is not a member of the Institute but is desirous to effect that consolidation if it can be effected to produce the results we all desire. I am not prepared and I have only hastily read the result of the labors of the committee. I, myself, would like to hear it discussed in a general manner. I think all the members of the Institute would like to hear a general discussion, that we are all anxious for the success of the purpose for which this committee was appointed, and I don't think there is a doubt but as to the best means of effecting it, I think the committee has done its work well, and it is only by having a discussion that we can arrive at whether what it has done meets the views of all the members. I am in favor of discussion.

Mr. Smith, of Omaha: It is somewhat unexpected for me to be called upon, in this association at all events. But my views of this association are carried out by what has been stated before, the absolute necessity to us of a combination of the associations of this country. As to the best means of doing it that is what I came here to learn tonight. I want to hear it discussed. I have a theory of my own which if it please you I will lay before you. My theory of it is this, a combination to be effected by whatever name you choose to call it, the National Institute, the American Institute, or anything of that sort. The objects of each of the associations are the same, we are endeavoring to do the best we can for the good of the profession. Now the discussion that has arisen and the questions which have been mooted as to the advisability or non-advisability of one thing or

the other are very good, but I think it might be made in this way: All the members to become fellows, and then those who have the confidence of their fellows to be elected to occupy a higher position, or a second grade, or a third grade, if you will, but those members who have spent their lives in the service of this country in architectural productions, and have the confidence of their fellow-men, should at least receive some recognition. It may not be many years before others will be able to take their places, and so on to the end. By that means we can avoid any sort of complaint that those members of the American Institute are justly entitled to make. I am already a member of the Institute. Why should I give up the honor I have already to become a member in a lower grade? I think by that means that might be avoided.

Mr. Cutler: I respectfully urge again that a discussion of this report by paragraphs will give us the very best light, and I therefore move that we now take up the consideration of this report, by paragraphs, and that a motion to adopt a paragraph shall be merely for the purpose of getting at the sense of this meeting, and not in any way binding the Institute to any final action, or to confine the committee which will hereafter report upon the project of consolidation.

The motion was seconded and carried.

Secretary Bloor then read the first paragraph.

Mr. Stone: This first paragraph is the name by which this body has been known for years, and it is the name which should attach, I think, to the body which becomes the representative body of the architects of this country. Those of us who have been members of the Institute for the last fifteen or twenty years know how much we have been through, and I think the young members do not realize how much they owe to the very fact of the existence and the persistent keeping up of the American Institute of Architects. It has a name which has existed for just about a generation, and the standing of every man in the profession today is infinitely better for the fact that it has existed. I believe in retaining this venerable name, and I trust that the other organizations, whether they are known as chapters or as local associations, will be willing at least to have that name retained. It has in it a tower of strength, and if we retain it and keep it, it will for future generations have in it a greater tower of strength and it will be a greater help to those who come after, if possible, than it has been to those who have gone before and are now practicing architects. Let us not in our endeavor to improve our standing and position lose that which we now have which is good, but hold on to this good and press on to something better. Therefore, I move we consider that as the proper name for the central body.

The motion was seconded by Mr. Adler and carried unanimously.

The secretary then read the second paragraph.

Mr. Adler: The Western Association at its last convention adopted a method of determining the status of honorable practice of the profession by the applicants for membership, and I think it would be well if we were to add to the clause proposed by your committee a further clause which would make the latter part of the paragraph read thus: "The honorable and exclusive practice of the profession of architecture, the fact of such honorable practice being demonstrated in the manner provided for by the rules of the Western Association of Architects." But as it has fixed the standard of admission somewhat high, it is rather difficult sometimes to determine whether an alleged architect is engaged in the honorable practice of the profession, and I move that the latter part of the paragraph be amended so as to read as I have suggested. Those rules provide that the candidate shall submit to the Board of Directors of that association drawings or photographs of buildings erected under his care, together with statements from his clients for whom these buildings have been erected, stating that his services in connection with the erection of those buildings have been satisfactory, and, in addition to that, a statement from two members of the association vouching for him as an honorable practitioner.

Mr. Briggs: It seems to me that those words "The Western Association of Architects" should not be adopted, because if this was adopted there would be no Western Association of Architects.

Mr. Adler: There is, however, as yet, a Western Association, and this work is preliminary work, and whenever the consolidation shall have been effected, these rules can be incorporated in the section. I say this because it would be the time to incorporate in this resolution the form of application and rules of the Western Association.

Mr. Gibson, of New York: Is it intended that this clause in the recommendation of the committee should cover the possible applications for union on the part of any other association than the Western Association of Architects? We all understand that whatever rules and standards the Western Association has adopted will in the main be satisfactory to us, but it seems to me that this clause, in the recommendation of the committee, is one that might be interpreted to allow for the admission of minor societies to full membership in this Institute, some of which, perhaps, are not yet in existence. I should like to know if there is any existing society in view, and if the possibility of a future society taking advantage of that clause has been considered.

President Hunt: As the chair understands, any architectural association or it would allow the members of any architectural association to become members of this confederation.

Mr. Adler: And under the clause as I propose it to be amended, it would be any architectural association which has adopted a standard of membership at least as high as that now prevailing in the Institute, and as more definitely defined by recent action of the Western Association. It is not intended at all by the mentioning of the standard of membership of the Institute, or even of the Western Association, to confine membership to those bodies. The reference to the regulations of these two bodies is merely for the purpose of definition, so as to avoid in our present work a long and elaborate statement of the conditions of membership.

Mr. Gibson: The more definite the better, I think. The object of my question was to obtain an opinion as to the necessity of further definition.

President Hunt: The resolution, as offered by Mr. Adler, I understand, covers in general terms about everything that is contained in this condition of membership of the Western Association. I think that a few words had better be put in a report of this sort, rather than adopt the whole form of the Western Association.

Mr. Adler: This will be considered by the joint committee.

Mr. Briggs: It seems to me in regard to the discussion we are now having in reference to this name, there is one thing we want to look at here, and that is that this American Institute has existed a third of a century. We have been very particular in regard to membership, and the organization itself has been a very honorable body, and has done an incalculable amount of good to the organizations of this country. Now, we propose to take in one or more organizations, and the largest organization has not been in existence over two years. We do not know how long they are to be in existence, and it seems to me it would be well to consider whether it is desirable to accept that organization or any organization as a whole. If any of the members of that organization wish to become members of the American Institute of Architects they have the right and the same method we have all pursued, and it seems to me that we can all consolidate that way and make it a stronger organization than we can in any other way. Now, we do not know who are in the Western Association. I do not wish to criticise them; they may be our peers in every sense, but they are now coming in as a body when it seems to me that any consolidation should be by the method we have all pursued. Let them come in as associate members of the old American Institute of Architects, and let us not take any organization in as a whole.

Mr. Adler: I wish to say on behalf of the Western Association of Architects most emphatically, that it does not as a body, or through any of its state organizations, or through any of its members individually, apply for membership in the American Institute of Architects. I wish to say that the Western Association of Architects was requested by resolution of the American Institute to appoint a committee to act with a similar committee of the American Institute, to devise ways and means for the unification of the different architectural associations of the United States, and it is in response to that request that I, as chairman of the committee appointed by the Western Association, have acted with the committee of the Institute. And I must protest against the assumption that we of the Western Association of Architects, as a body, or as individuals, are applying for membership in the Institute. We are fully able to stand on our own pins. We have a greater membership today than that of the Institute. Our conventions are attended by three times the number of members who attend the conventions of the Institute, and I think we have vitality enough to get along by ourselves.

Mr. Briggs: I do not think Mr. Adler's statement that the American Institute requested this consolidation is true. I do not understand it is so, nor do I wish to criticise, in any way, the Western Association. I don't doubt they can stand on their own bottom, but I say this is a very old and honorable institution as it is, and if the consolidation is desired, we can surely effect it individually. Now, Mr. Adler states that he has twice the membership of the American Institute, and if they should come in here they certainly would have the power to run things as they have a mind to. This body would go out of existence and be absorbed by the Western Association of Architects, and we would be absolutely blotted out of existence. They would have the power to do entirely as they chose.

Mr. Cutler: I think Mr. Briggs is very much in error. The Institute has certainly taken the initiative in this matter; appointed a committee, and requested the Western Association to proceed. If any member thinks that action ought to be reconsidered, that is very well, but it is too late now to raise any question as to whether or not this Institute is definitely committed by resolution to the speediest possible consolidation of all the architectural societies of the United States. I think Mr. Briggs is laboring under a misapprehension.

Mr. Stone: I was not present at the convention at Chicago, but, as I understand, Mr. Adler himself introduced a resolution here which proposes as a test of membership substantially what we already considered a test of membership; but thinking it was not quite high enough, he has added to it further conditions which are obtained from the Western Association of Architects, and he brings it in in this way simply, as he stated upon the floor, for the purpose of indicating the direction in which he wants this thing to move. And if we adopt his amendment here, concerning which I shall have a word to say before I get through,—if we adopt the amendment as suggested here, it is simply a direction to the committee which will have the final drawing up of the conditions of membership to this association, the combined conditions of the Western Association and the American Institute of Architects; and although those conditions of the Western Association I have not read, but, as I understand from Mr. Adler, they are more exacting and not quite so broad and open as those from the American Institute.

Mr. Adler: They seek to define a little more definitely what constitutes honorable practice.

Mr. Stone: There was one word in his amendment which struck me as being a little infelicitous, in this, that there are quite a number of professors of architecture in the country who cannot be considered practicing architects, but they are not like some members of the Institute who are now engaged in selling building materials or engaged in the trades. I refer to Mr. White, for instance, who cannot be considered eligible for membership here. But there are others whom we do not wish to exclude from membership. Therefore, I would like to have Mr. Adler's amendment worded that it would not exclude such men. As I understand him, we do not want men who are engaged in selling building materials, but we do want men who are architects, but not practicing architects.

Mr. Adler: In the Western Association we elect those men honorary members.

Mr. Stone: I should like to have them active members. I think, if we are going to try and work into the American Institute the architects of the country from the Pacific to the Atlantic, that we should do that which will go to bring them all in that are worthy practitioners, if that is what we are after.

Mr. Gibson: May I repeat the question which I asked a few minutes ago? Is it contemplated that any other association besides the Western Association of Architects will immediately share in this union?

President Hunt: The chair so understands it. It reads pretty plain English.

Mr. Gibson: The admission of the body of another association, with its whole list of members, is a very important matter. The rules and standards of the Western Association are and always would be perfectly satisfactory to the majority of the members of this Institute, but this clause will cover other associations which are not so satisfactory.

Mr. Briggs: That is my point exactly.

Mr. Adler: It admits any which has a standard of membership as high as that of the Western Association or of this association.

Mr. Briggs: How do we judge that standard of membership?

Mr. Adler: Because it is clearly so stated there.

Mr. Gibson: Since the Western Association seems to be the only one immediately under consideration, why not make the clause definitely to read that way, the American Institute of Architects and the Western Association of Architects, etc. Why not put it in that way until it can be separately considered as to the admission of any other association?

Mr. Cutler: The New York Architectural League was considered at Chicago, exclusively as one who might become members of the association.

Mr. Gibson: I don't understand that the standard of the League is any where near as high as that of the Western Association or American Institute.

Mr. Briggs: I do not think it is right to take them in as a body. Let us take them in as individuals. There may be objectionable members in the Architectural League and there may be objectionable members in the Western Association of Architects, men who, if put up as members in the Institute, would not be seconded by their own men.

Mr. Carlin: We have in the western part of this state not extending east of Utica, an organization of architects, numbering fifty, in which architects have been admitted to membership on the same standard as adopted by the Western Association. Is it fair to require of our members to come into this Association as individuals and the other associations come in as a body?

Mr. Cutler: The Western New York State Association of Architects is nothing more than a branch of the Western Association.

Mr. Carlin: I beg to call Mr. Cutler's attention to the fact that they may become so, but I do not understand that the Western Association delegates to the state association the power to elect members for it. We are organized under the rules of the Western Association of Architects, but I think it takes another election to become members of the Western Association.

Mr. Frederick: I would like to ask how many of the organizations of the Western Association of Architects have come in under the rules or regulations as defined by the circular referred to by Mr. Adler? If we have a criterion of this large membership, as to how many have complied with those rules and regulations, then we could judge better as to the advisability of the combination as a whole. I think now we are working somewhat in the dark, and I would like to hear some expressions on that subject.

Mr. Adler: The Western Association when it was formed, adopted in its constitution as a condition of membership the identical words used in the constitution of the American Institute, that is, that membership should be conditional upon the honorable practice and profession. This was very soon afterward amended to read thus: that the condition shall be the honorable and exclusive practice of the profession. Under the first clause, which was precisely the same as that of the American Institute, we received, I think, in the neighborhood of 120 members. Then under the amended clause, that is, the honorable and exclusive practice of the profession of architecture, under that we received the remainder of our present membership. The clause under which we are now working, and in which we more accurately define what constitutes the honorable practice of the profession, was only adopted at the last convention of the association. All our members as they stand now are admitted under a clause that is precisely the same as that of the Institute, and the remainder under the clause stating that the condition of membership shall be the honorable and exclusive practice of the profession.

Mr. Frederick: "This application for membership must be accompanied by photographs, and also by letters from the respective owners of the above buildings, and indorsed as to character and efficiency." There is no question in my mind, and I do not think there can be a question in the mind of any member here, as to that being a very thorough means of establishing a man's character, and I think any man making such an application, and bringing such proof as this paper calls for, would be entitled to very fair consideration, or more than a fair consideration, possibly. Mr. Adler says that has been only in vogue since the last convention. A very large membership in a very short space of time has been secured by the Western Association of Architects, and no man in the country feels more flattered by this fact than I do. Now, have the same means been taken, has the same care been exercised, not specifically in this paper, but in a practical way by inquiring as to the character and the work of the party applying for membership previous to the promulgation of this last clause? Were not many of the members of the Western Association of Architects taken in by convention in a body? I don't want to be misunderstood as casting any reflections upon the Western Association or any member of it, far be it from me. As I said before, I am glad of the existence of any association, society, or term it what you please, the end of which is for the improvement of the profession at large, and I believe that is the object of their association thus formed. But when associations of all kinds are in embryo, when they take head and form branch organizations, a natural enthusiasm is awakened among those who are interested. And may not this enthusiasm, which I am sure was great and strong since it has rolled up this large list of membership of which Mr. Adler speaks, may not that of itself have been the means of bringing in many members who today could not become members under this rule?

Mr. Adler: I will say in reference to this that all that Mr. Frederick says is true, that we did get quite a number of people admitted to the ranks of the association who ought never to have been admitted, but I will say further, that as soon as this was discovered, means were taken to rid ourselves of these obnoxious elements, and as far as we have been able to discover their existence we have purged ourselves of them. Authority was given to the Board of Directors to drop from the lists of membership all whose professional standing was not such as to entitle them to consideration as architects engaged in the honorable and exclusive practice of their profession, and I know of quite a number whose names have been dropped on that account. It required no trials, no litigation; it was assumed that these people had come in under a misapprehension; the constitution of the association provided that only those fulfilling these conditions should become members, and it was assumed that the admission of these people was in error, and they were dropped without any fuss, and there were no protests; nothing was said about it. We were very glad to get rid of them, and they were very glad perhaps to get rid of us.

Mr. Shipman: At the organization of the Western Association of Architects there were quite a number who applied for membership and registered their names among the charter members who were afterward found not to be eligible under the constitution and by-laws then adopted. I myself made the motion to have the Board of Directors make an examination of all cases of membership there, and where it was discovered that they were not practicing architects that they were to be kindly and courteously advised of the fact that they were not eligible to membership, and I think that has been very generally followed out and no trouble has resulted from it.

Mr. Kendall: I think there ought not to be an open door left for a moment, but to make this a consolidation of those two bodies, and then later, let other bodies apply for membership to the body thus consolidated. The architectural league cannot come in by any means, because I think not more than one-third of that body are practicing their profession, and it seems to me that if consolidation is carried out at present it must be between these two associations—the Western Association and the American Institute.

Mr. Adler: I am sorry to take up so much time, but it seems to me as though it were a nobler object for us to endeavor to consolidate under one organization all architectural associations of the United States than merely these two. I do not think that we have the right to assume that only these two organizations, the Institute and the Western Association have formulated conditions of membership that maintain a high enough standard to make them component parts of the new organization that is to be formed. There may be others, and there may be those of whom we do not know. If there are only these two whose standard of membership is as high as that called for by this resolution, the others are excluded any way. But should there be two or three others who have a standard of membership as high as ours, or even a higher one, I think we want them; and in this connection I would like to say one more word about a matter that has been disposed of before, that is, that it should not be assumed by the members of the Institute that because it is proposed that the name of this federation which we propose to form shall be: "The American Institute of Architects," that therefore, the Western Association, or those other organizations of whose existence we are yet unaware, are applying for membership to this body. In proposing to name the federation of architectural associations, the formation of which is proposed by the report of the committee, "The American Institute of Architects," those who are not members of the American Institute recognize the value of the services rendered by it to the cause of the advancement of our profession, and we therefore voted to retain the name, thinking it is the wish of the old members of the Institute that that name be retained, and we only wish to share to an extent in the prestige of that name, but we are not desirous of becoming members of this Institute. The membership of this Institute has been open to them these many years and many of them have found admission to this Institute many years before the formation of the Western Association; and they formed the Western Association because they were dissatisfied with many things in the Institute, they wanted to form an organization that was not the Institute, that was unlike the Institute in its methods of administration, and they do not want to go into the Institute in its present form, they want to have a voice in the formation of the constitution of this new body, and they wouldn't ask for admission to the Institute as it is at all, and it is needless to consider the matter in that way. They are willing to join the Institute in forming a federation of architectural associations, they are willing to call that federation the American Institute, but they want to adopt a form of government that is more democratic than that of the Institute has been, that is more a government by the members of the association than a government by a board. I think that has been the cause of dissatisfaction.

Mr. Kendall: I did not propose to close the door against other societies, but simply to control it and not to leave the door wide open.

Mr. Frederick: I don't think that I misunderstood the remarks that Mr. Adler made upon the point which we are considering. The impression conveyed to me by his closing remarks was that to effect a union with the Western Association of Architects it was necessary to dissolve the American Institute, that an institution which has been fostered for thirty years should cease, and that a new institute should take its place. When the American Institute of Architects extended its hand of fellowship to the Western Association of Architects, and said come and go with us, it hardly thought that it was necessary to obliterate itself in doing so, and I should be sorry to have that consideration forced upon me now. No one felt more anxious than I did upon that subject, and no one expressed himself more warmly than I did and hoped for its success, but if its success is to be obtained in that manner and in that form I am hardly prepared to accept it.

Mr. Briggs: That is about the point I was getting at. By this consolidation of the American Institute this institution would cease to exist. All the strength of years would be thrown to the winds and there would be a new institution in which we would retain the name and nothing else. That was the point I was getting at when I said it was not right to admit any organization, but to retain the old Institute. We all love the Institute, and it has done a great deal for the architects of the country, and whether

a new organization could do better I cannot say. We ought to think long and wisely before we try to change it.

President Hunt: Will Mr. Kendall take the chair?

(Mr. Kendall in the chair.)

President Hunt: Being one of the original founders of this architectural society, I am disinclined to see it go out of existence. I was absent from the Chicago convention, but I think the American Institute of Architects would be running a very great risk in allowing any association to enter bodily, as has been stated here this evening, into the American Institute of Architects. I think that we would run the risk of a total change and it would be a dubious change, as we do not know to what it might lead. After forming an original society in order that all the practicing architects of the United States might have the advantage, we formed a federal system with the idea that they should enter through the different chapters, and have the same advantages that we had in New York, and we dissolve our original society into a New York chapter. I am naturally opposed to seeing the institution I helped to found pass out of existence. Until we have discussed the whole question and some further light has been thrown upon it, I myself am not personally in favor of allowing the entrance of any society as a body into the Institute. I think we would run a great risk of losing all we have gained for the profession. That is all I have to say.

(President Hunt resumed the chair.)

Mr. Shipman: It seems apparent that this resolution is not going to be passed unanimously by a good deal, and the action of the convention at Chicago virtually declares just what the resolution of Mr. Gibson contemplates. Isn't it better rather than have a disagreeing vote here, not a unanimous vote, not a unanimous expression, isn't it better to let it stand just as it was left at the Chicago convention, and not pass any such resolution as this? I am in favor of the sentiment expressed in that resolution, heartily in favor of it, and while I am up I want simply to say that I have been a member of the American Institute much longer than I have a member of the Western Association of Architects. I have a great deal of love for the old Institute of Architects. I have an active love for the Western Association also. Now there is, I take it, the same object in view in the American Institute of Architects as there is in the Western Association of Architects. I don't think that the members of the Western Association of Architects are so vastly different from the members of the American Institute as to want to tear down or revolutionize anything connected with the Institute. Many of us are members of both, and I think I may safely say that the members of the Western Association have equal, yes greater love for the American Institute than they have for the new organization. I don't mean to say that they are lacking in love for the new organization, as that would not be true. I don't think that the danger suggested by our worthy president really exists. If you take so large, strong, and active a body as the Western Association into communion with the American Institute you must expect from it that same voice in the organization that we have, but that that voice would be for revolutionizing the organization is something I do not expect. I think the object of all this discussion is simply to agree upon some proposition that we will present to the Western Association of Architects as our idea of formation of a federation. I think that instead of saying this should be adopted, we had better say we approve of making such a proposition as that to the Western Association of Architects. I think that my friend, Mr. Adler, has not been fully understood in his remarks about a change in the methods of the Institute. I don't think that he refers to the ordinary methods. I think he has in mind the fact that the Western Association has some new blood, some very active blood, that must be infused in some measure into the viens of the old Institute. I don't believe he means anything revolutionary, or anything of the kind. I make these remarks simply to soften down what Mr. Adler has said.

Mr. Cutler: I simply wish to say that before passing upon the question I should like to hear each article discussed.

(Mr. Shipman in the chair.)

President Hunt: I was as desirous as anyone, and have been from the beginning, in fact, of only one association — in fact, it was my suggestion in the original society that we should federalize the society. What strikes me is, I can't believe but there will be danger in allowing so many to come into our Institute in a body. We have been thirty-one years in getting two hundred members, and in forty-eight months they have outrun us.

Mr. Adler: We are citizens of a republic, and as such we are in the habit, in many communities, every year or every two years, of determining the nature of the government of the community in which we live until the next election. We are in the habit in regard to all, public, national, state or municipal legislation of acting not each for himself, but for the governing power. The unpopularity of the Institute and the great popularity of the Western Association among the architects of this country — and we can't speak of the thirty-one years because during the earlier part of the time there were very few architects — is well known, but why the Western Association has made more progress during the last few years than the American Institute is to be explained by this: in the American Institute of Architects the government, the care of all the interests of the corporate body, has been in the hands of a board personally elected from year to year by itself. That is, the chairman of the convention, a member of that executive board, has appointed a nominating committee that, it may be, has made certain nominations, and there is nothing for the convention to do except simply to approve of those. Again, the constitution of the Institute is so peculiarly worded that it deprives each individual convention of almost every opportunity for any initiative action. It is almost impossible under the present rules of the Institute for any convention to take any initiative, independent action as to the policy of the Institute. Everything is hedged about, and the initiative must be taken by the board. Now, that is distasteful to many and it is popular with but few. We in the Western Association are striving for the same ends as you in the Institute. I think that the advancement of the standing of our profession is as dear to us in the Western Association as it is to those of the Institute, and I think we are prepared to make as many sacrifices for this advance as you are. But our methods have been different; we have been more democratic; and we have been prepared to take the risk of occasionally making a blunder, and of being compelled perhaps next year to rescind the hasty action of the year before; but we have vested the government of our body in the successive conventions as they have been held in our membership, and for that reason we have had a large attendance at our conventions, and our members have come because they have felt that they are the rulers; that they had something more to do than merely to ratify the nominations of the nominating committee appointed by their executive board, and to discuss a few matters brought before them by their executive board. They have felt that when they came to these conventions they were the association, and they were the government of the association for the time being, and that they only delegated their powers to the executive board from convention to convention because they could not be in perpetual session. It is on that account that we have a larger membership. It is true, probably, with a greater certainty, that the action of the Institute, as determined upon by its executive board, will be more prudent, more conservative, than the action of the convention of the Western Association. There is more time for deliberation; things are not done with a rush; but if we want members, and if we want those members to take an interest in our work, we must give them a voice in the management of our affairs; and it is true that if the amalgamation that has been spoken of is effected, the chances are that a majority of the members of the newly formed American Institute of Architects will be those who are now members of the Western Association of Architects, and the chances are that any constitution which will be adopted will be one which gives greater power to the body itself in convention assembled, and less to the board. I believe that is inevitable, and if that is called revolutionizing the affairs of the American Institute, then if this amalgamation is effected they will be revolutionized, and if you, gentlemen, are afraid to hereafter make yourself part of a body that will govern itself at its conventions, and that will delegate its power only between conventions to a representative board, vote against this amalgamation.

Mr. Briggs: I think I have been misunderstood in assuming that I do not desire a consolidation of all the architectural societies of the United States, but I think it was not necessary to design a new body, and if the constitution and by laws of the American Institute were obnoxious, it was in the power of the members of that body to repeal or change them; and if the Western Association members came in in a body, they would have certain power, and that constitution and by-laws could be changed. It has been in the power of the Institute to change obnoxious rules at any time.

Mr. Gibson: That resolution of mine simply declares it to be the sense of this meeting. It is not in any sense conclusive; but since it has been said that it is evident that the vote in any form will not be unanimous, and as, in a great measure, the purpose of that resolution has already been accomplished, I do not think it necessary to push it. We were discussing details, when it became evident we were at cross purposes, largely, upon the main question. Mr. Adler's last manly speech has gone to the root of this matter, and it is evident that the American Institute of Architects has to meet the Western Association on terms of equality. The attempt upon either side to dictate terms would lead to a rejection of the proposition, and the whole thing would fall through. This is not a very large meeting of the American Institute to settle this question, and I therefore beg leave to withdraw my resolution.

Mr. Frederick: I am very glad to have been able to listen to the remarks made by Mr. Shipman, of Chicago. I think that they cover the ground here. I am also glad that Mr. Gibson has seen fit to withdraw his resolution. I am more than glad to have heard the expressions that Mr. Adler made use of. I repeat what I said at first, that I do not think there is any member of the American Institute of Architects, or any member of the Western Association of Architects, more desirous of a thorough unity and federation of every architect in this country worthy of the name of architect than I am. I think that possibly I misunderstood Mr. Briggs in the first remark that he made. I do not think he intended the application that possibly was made of his remark that the volume of membership of the Western Association of Architects would swamp the American Institute. If that volume of membership of the Western Association is in every respect in the way of honorable practice and of honorable conduct, I, for one, have no fears of being swamped. I think it is what we want; we want to be swamped in just that way all over the country; but the only point is with a large part of that association the character is not quite up to the level we would like to have it, or that the leading members of the Western Association would have it; that we, as a body, shall accept the whole of that body if the Western Association of Architects with a little more time and attention can eliminate from its body such membership as might not be desirable, then I am sure there would be nothing left for the American Institute to take exceptions to. If we can feel sure that the weeding out proposed, which has been begun, and has been carried along has arrived at a degree of perfection, and that all of the elements which came in when they could not help it, which always comes in under circumstances like those, for which the Western Association, as an association, is not to blame, because when applications for membership into associations are made, of course you must accept, and generally there is expected a certain status, but I have no doubt, as Mr. Adler has said, the effort made by those representing the Western Association of Architects has been an earnest one to make it just what we would have it. If we by a little more time, and the Western Association of Architects in the same spirit as ourselves worked upon that same subject, I repeat I am not afraid of any swamping process. We have only one object; it is not an object of individuals; it is an object of aggregation of the profession, the whole profession, that it may be ennobled; that it may become greater and better and grander and popular, and teach the people what they should understand better about it. I think myself that after the desire so earnestly expressed by the last convention, that there can certainly be no mistake as to the feelings of the American Institute toward the Western Association, and I should deprecate any words or acts which might offend them or retard this purpose. I agree with some of the members who would like a full expression upon other matters embraced in the report of this committee, and I think, after

all, the points of variance will not be so great as they seem to be in some of the expressions we have had when they come to be sifted down.

After the introduction and discussion of a motion made by Mr. Adler to test the sense of the members that called for the reconsideration of the resolution of a year ago, suggesting a scheme for consolidation, the motion was withdrawn, and the following resolution, offered by Mr. Gibson, was substituted, as follows:

Resolved, That it is the sense of this meeting that the amalgamation of the American Institute of Architects and the Western Association of Architects is desirable if effected under conditions satisfactory to a majority of the members of the American Institute of Architects.

The resolution was discussed and finally put to the convention, when it was unanimously adopted, amid great applause.

After a general discussion of Section 2, an amendment was adopted to take its place in the report.

Mr. Cutler: As I have some reason to believe that a great deal of discussion will come upon paragraph 12 and it is getting late, I move we now take up the discussion of paragraph 12.

Paragraph 12 was then read by the secretary.

Mr. Adler presented a substitute for sections 12 and 13 which was generally discussed and adopted.

Sections 3 and 4 were adopted without discussion.

Mr. Stone: It seems to me we have covered the great general principle at stake and I think it is more proper now for us to adjourn and not consider this matter in detail any more. I think we have got to a point from the direction we have taken in this matter tonight and some committees at a future time will report upon this matter in detail.

On motion the convention adjourned.

SECOND DAY — MORNING SESSION.

The convention was called to order at 11:30 by President Hunt.

Secretary Bloor presented several amendments to by-laws, which were discussed. A substitute for Section 6, Article I, offered by Mr. Nickerson, was adopted unanimously, as follows:

ARTICLE I, SECTION 6.—Corresponding and honorary members shall have all the privileges of the Institute except that of voting; they shall not be eligible for election to office. Associate members shall not be eligible for election to the office of president of the Institute or of a chapter, but shall pay the same annual dues as follows:

Mr. Kendall, however, moved the reconsideration of the amendment, and it was finally passed in the following form:

Corresponding and honorary members shall have all the privileges of the Institute except that of voting; they shall not be eligible for election to office. Associate members shall not be eligible for election to the office of president of the Institute or of a chapter.

Mr. Briggs: I would like to move an amendment to Article III of the by-laws, that the initiation fee of fellows shall be changed from $10 to $25, and that the yearly dues of associate shall be changed from $5 to $10, and for fellows from $10 to $20. The membership of the Institute at present is 125 fellows and 106 associates, which give us yearly dues of $1,750. By increasing the dues it will give us a yearly income of $3,506. Furthermore, I move to insert in Article V or VI of the constitution, a clause, that the salary of the secretary shall be $1,500 per year, and all traveling expenses while engaged upon the business of the Institute shall be paid by the Institute. With an income of $3,500 we would be able to pay the secretary this salary of $1,500 and still have over $2,000 for the expenses of the Institute. Our committee will make a recommendation similar to this. It think it is very necessary at this time that some such provision should be made for our future secretaries, and that they should be paid a uniform salary. I wish to put this on paper in this way and let it go over another year, but first I wanted to suggest this now.

The recommendations were ordered treated as other amendments without motion.

Mr. Littell: I ask for the admission of the report of the special committee to consider the report on consolidation. I ask for general consent to introduce this before we take up any other business.

General consent having been given, Mr. Littell proceeded as follows:

Mr. Littell: The special committee to consider the report of the Committee on Consolidation entered upon its labors and found it would require a very long time to fully work out a plan or suggestion in connection therewith, but your committee unanimously agreed to present to this convention a report of a different line and that suggestion in that report of the original committee.

The report as amended by the committee and reported upon by Mr. Littell is as follows:

REPORT OF THE SPECIAL COMMITTEE ON CONSOLIDATION.

1. The name of the proposed federation shall be "The American Institute of Architects."

SEC. 2. Any architectural association which now maintains the condition of membership which has prevailed in the American Institute of Architects, namely, the honorable and exclusive practice of the profession of architecture, the fact of such honorable practice being demonstrated in the manner provided for by the rules of the Western Association of Architects, may become a part of the new organization.

SEC. 3 Associations in states or parts of states may be formed with the approval of the convention of the American Institute of Architects, with power to make laws and regulations for their own government. The local societies, called chapters of the Institute, may be formed with similar powers; but, in all cases, the standard for admission into these subdivisions must be at least as high as that fixed by the constitution of the Institute, and they must not conflict with the requirements of the body in which they are included.

SEC. 4. The conventions of the Institute at large shall be triennial, and, unless ordered otherwise at the previous convention, shall be held in the official metropolis of the nation, the city of Washington. The right of participation in the deliberations of these conventions, and the assignment of votes to individual chapters, shall be the same as at the conventions of the sections. The convention of the Institute at large shall be annual. Unless ordered otherwise at the previous convention, it shall be held in the official metropolis of the nation, the city of Washington.

SEC. 5. The American Institute of Architects shall have two grades of membership, associates and fellows, as defined by the constitution of the present Institute. The Western Association may elect at a day previous to the proposed reorganization as many of its members to the grade of fellow in the American Institute of Architects as there shall be fellows in good standing in the present Institute at the date of reorganization, and all other practicing members of each society shall enter the new Institute as associates. After reorganization no person shall be eligible to the grade of fellow unless he shall be at the time of balloting an associate, or unless he shall receive the unanimous vote of the Institute in convention assembled.

SEC. 6. The officers of the American Institute of Architects shall hereafter be a president and as many vice-presidents as there are chapters, an honorary secretary, a general secretary, a secretary of foreign correspondence, a treasurer, and a board of trustees. The board of trustees shall consist of the above-named officers and twelve members, the twelve members to be reëlected at the time of organization shall serve four for three years, four for two years, and four for one year. And thereafter four members shall be elected at each annual convention to serve for the term of three years.

SEC. 7. The duties of these officers shall be as is customary in similar organizations. The general secretary, secretary of foreign correspondence, and treasurer, shall be salaried officers, the amount of their salaries to be fixed in proportion to the revenue left after providing for expenses of publication, rent, and other current outlay, and the general secretary to be paid on the basis of the fact that if his work be adequately done, it must necessarily absorb all, or nearly all, of his working time.

SEC. 8. These provisions shall take effect when ratified by a two-thirds vote of all professional members of the American Institute of Architects and a two-thirds vote of all professional members of the Western Association of Architects, but when the same person is a professional member of each association his vote shall be counted as only one-half a vote.

Respectfully submitted,

E. H. KENDALL, New York,
D. H. BURNHAM, Chicago,
T. P. CHANDLER, JR., Philadelphia,
T. M. CLARK, Boston,
A. J. BLOOR, New York.

Submitted as amended by special committee, Emlin T. Littell, Chairman.

After some discussion, the question of the proper number of fellows as against the proposition of Mr. Adler that all members be placed in one grade, the meeting place to be at Washington or Chicago as against a desire of some members to have successive meetings in all parts of the country, and the proper formation and relations of chapters, Mr. Adler offered the following resolution:

"*Resolved*, That the committee of the American Institute of Architects upon consolidation of architectural association be continued, and that it be directed to act with the corresponding committee of the Western Association in determining a definite plan of consolidation in the next six months. It is further resolved that when this plan of consolidation has been determined upon and approved by the boards of trustees and directors of the American Institute of Architects and Western Association of Architects the same shall be printed and copies of the same distributed among the practicing members of both bodies. It is further resolved that within one month from the distribution of these printed copies of the committee's report there shall be a letter ballot upon its adoption by the practicing members of the American Institute of Architects and Western Association of Architects, and that if approved by a two-thirds vote of both bodies it shall be declared adopted, and the two bodies consolidated under its provisions. The board of trustees of the American Institute of Architects and the board of directors of the Western Association of Architects shall in case of such adoption at once issue a call for a convention of the members of both bodies to be held at such place and at such time as may then seem most expedient, and a re-organization of the American Institute of Architects shall be the order of business of said convention."

The resolution was unanimously adopted.

The reports of the nominating committees were then called for.

Secretary Bloor: The two following reports have been submitted:

First Committee report: For president, R. M. Hunt; treasurer, O. P. Hatfield; secretary, A. J. Bloor; secretary foreign correspondence, Adolph Cluss; board of trustees, Napoleon Le Brun, E. I. Nickerson, H. M. Congdon, George A. Frederick; committee on education, Prof. N. Clifford Ricker, Alfred Stone, Prof. William Roach Ware, W. C. Preston, John Moser; committee on publication, W. R. Briggs, T. M. Clark, J. R. Willett, G. C. Mason, Jr.

Second Committee report: For president, R. M. Hunt; treasurer, O. P. Hatfield; secretary, A. J. Bloor; secretary foreign correspondence, R. W. Gibson; board of trustees, E. T. Littell, W. W. Clay, H. M. Congdon, George C. Mason, Jr.; committee on education, N. Clifford Ricker; Alfred Stone, William Roach Ware, J. M. McLaughlin, Henry Van Brunt; committee on publication, Charles Crapsey, T. M. Clark, S. V. Shipman and W. C. Preston.

Mr. Scofield: Before we proceed to ballot I would say I notice in the candidates proposed by this second nominating committee that my name is mentioned as one of the trustees. I wish to say that I have already, or will soon have served my time of conscription, and I have been to considerable trouble in attending the meetings at times, and in order to try to do my part of the duty as a member of the board, and I do not feel as if I could serve again. I am willing to always make a martyr of myself to a certain degree for the good of the Institute, but I know there are others who are more willing than I am, and I hope that you will be honorably discharged, and I beg leave to decline in favor of one of the members suggested in the report of the first committee.

President Hunt: This question about martyrdom reminds me of a statement I wish to make, especially as I was not able to decline a nomination last year at Chicago. There is probably not a member of the Institute to whom this position is more disagreeable to be put in than it is to me. The vote of confidence is very pleasant, and I thank you for it, but there are other members who would make a better president, and I beg, sincerely, that some other man be put in my place.

(Cries of no, no.)

Mr. Briggs: As our president, secretary and treasurer are named on both tickets, I move that the secretary be instructed to cast one ballot for those three officers.

The motion was put and carried.

Mr. Stone: I move we proceed to ballot for the board of trustees.

President Hunt: I will appoint Mr. Moser and Mr. Kipp as tellers.

Secretary Bloor: The chairman of one of these committees has requested me to place the name of S. V. Shipman on the committee on publication in place of another name.

The balloting was then proceeded with, and the following officers were duly declared elected:

President R. M. Hunt; treasurer, O. P. Hatfield; secretary, A. J. Bloor; board of trustees, Emlin T. Littell, Napoleon Le Brun, G. A. Frederick and W. W. Clay; committee on education, W. R. Ware, N. Clifford Ricker, Alfred Stone, E. B. Preston and J. W. McLaughlin; committee on publication, T. M. Clark, Charles Crapsey, W. R. Briggs, George C. Mason, jr., and E. B. Preston; secretary of foreign correspondence, R. W. Gibson.

A paper was then read by Mr. Stone, "The late President Walter," written by George C. Mason, Jr. (Printed on page 33.)

During the reading of this paper, by Mr. Alfred Stone, the utmost stillness prevailed, and the love and veneration in which President Walter's memory was held by the members of the Institute was evidenced by the expression of every face, many being affected to tears.

The convention adjourned to October 19, at 11 o'clock.

THIRD DAY—MORNING SESSION.

The convention was called to order at 11:10 A.M., by Vice-President Kendall, in the absence of President Hunt.

Professor Ware, of Columbia College, then made the report of the standing committee on education.

Mr. Ware made a verbal report of the department of architecture at the School of Mines, Columbia College, briefly describing the equipment of and the library of books, drawings of photographers with which it had been presented by Mr. Augustus Schermerhorn; the instruction in chemistry, physics and engineering, which is taken with the students of the other departments, and that in mathematics, mechanics and sanitary engineering, which has to a great extent been separated from the rest of the school and arranged expressly to meet the wants of the students of architecture. The more strictly professional topics taught came under the heads of practice, including specifications, working drawings, estimating, and professional usage; the history of ornament, with exercises in English composition; ancient, medieval and modern history, with exercises in reading French and German text-books; the theory of architecture, including a series of the various schemes of æsthetic and theories of the line of beauty, of proportion, and of the contrast and harmony of color; the arts auxiliary to architecture, such as stained glass, mosaic, fresco, etc.; drawing, with both the pencil and the brush, including the use of water-colors; shades and shadows and perspective; descriptive geometry and stone-cutting; and, finally, the study of architectural design, beginning with the study of the five orders, and continuing by means of a series of problems, large and small. There seemed to be some points of novelty in the teaching of history, French, shades and shadows, mathematics and freehand drawing, and in the work required of the students during their summer vacations.

Vice-President Kendall: We feel very much obliged to Professor Ware for his very able and most interesting report.

The report of auditing committee was submitted, accepted and referred to the Committee on Publication.

Mr. Frederick: Before taking up the report of the committee upon the remaining reports, I should like to ask the committee on the reports of the trustees and chapters for the reading of a memorial which was attached to the report of the Washington Chapter, it being of considerable importance. It is not long, and if time will permit, I should like to ask for the reading of it.

The following report of the Washington Chapter, American Institute of Architects, is given, as it includes an important memorial to congress regarding the establishment of a national testing station.

The monthly meetings of the chapter have been held regularly, with the usual summer interregnum, and topics of local importance were discussed by the members.

Mr. W. Bruce Gray and Mr. C. A. Harkness have been added to the professional membership.

In the spring the building regulations for the District of Columbia were amended, and the chapter was requested to recommend needed changes or alterations. This request was sent in only at the last moment before the regulations were sent to the printer. So as to take advantage of the opportunity the chapter held a special meeting at the commissioner's office in the district building, when the copy was submitted; each section and clause was read, discussed and voted on by the chapter. Many amendments were suggested and the majority of the changes recommended were accepted by the commissioners.

One of our monthly meetings was made specially interesting by an elaborate paper prepared and read by Mr. Adolf Cluss on his trip to Mexico. The peculiarities of the country, people and architecture, and the methods of architectural construction, and business in vogue, were described.

The lien law of the district has been before the Congressional Committee for amendment to the extent that notice should be served at the time of delivery, whenever material men or sub-contractors desired to take advantage of a lien.

The secretary was directed to communicate with the committee and to urge the passage of the bill, but congress has taken no further steps in the matter.

The question of introducing a bill requiring an examination of all future architectural practitioners has been repeatedly before our chapter meetings, but no positive action has been taken.

In connection with this report you will find a complete list of officers and members to date.

Professional Members—In the order in which they signed the constitution: J. L. Smithmeyer, John Moser, O. von Nerta, S. M. Howard, W. M. Poindexter, J. A. Henry Flemmer, J. R. Marshall, C. A. Didden, Glenn Brown, C. H. Read, T. F. Schneider, C. A. Harkness, Robert Stead, Henry H. Law, Paul Schultze, Adolf Cluss, Jos. C. Hornblower, J. West Wagner, Will A. Freret, Edward Clark, H. L. Page, H. H. Kendall, W. Bruce Gray.

On October 5, the following officers were elected: Adolf Cluss, president; Wm. Poindexter, vice-president; C. A. Didden, treasurer; Glenn Brown, secretary; C. H. Read, J. R. Marshall, O. von Nerta, committee on admissions.

The following memorial was submitted to the chapter by Mr. Cluss, and it was unanimously determined that it be incorporated in our annual report, with the request that the board of trustees, or the convention, take the necessary preliminary steps to bring the matter before congress.

MEMORIAL ON THE ESTABLISHMENT OF A CENTRAL TESTING STATION FOR BUILDING MATERIALS IN THE UNITED STATES.

The building interests of the country have assumed such vast proportions and important bearings on life, limb and health of the people, as to demand a commensurate, organized recognition from the government, such as has been awarded in the past to commerce, shipping, manufactures, agriculture, mining, education, transportation, and sporadically to specialties, such as ores, metals, victuals, drugs, etc.

Consistent steps should be taken without delay toward relieving the representatives of the building interests from an isolated position and unsatisfactory dependence upon partly antiquated hand-books, or incomplete new publications prepared by private enterprise, with diligence and ability, but without adequate financial and technical resources and scientific support for keeping abreast the exacting demands of a progressive age, in the midst of a prosperity in building enterprises and engineering feats, without any precedent in the world's history.

While fully appreciating the valuable work of the Franklin Institute in Philadelphia, of Prof. Thurston in Hoboken, the wholesale crushing of specimens of cements and stones, with the 200-ton government testing machine at Watertown Arsenal, and valuable tests made by the officers of the engineer corps, U. S. A., it cannot be denied that much valuable information is scattered so as to be inaccessible, in many cases forgotten, wasted or lost, and on the other hand, that the ground is, in various directions, not covered at all.

The same difficulties, though in a minor degree, have been encountered in the older, long explored, principal countries of Europe since the present wonderful activity in works of architecture and engineering has set in.

The solution has been found in the establishment of special institutions, testing stations for building materials, which have proved to be safe regulators for the restless work.

For safe building, the statical coefficients of strength and elasticity of the materials must be ascertained and controlled, whenever a case of importance occurs. The hardness and durability of building stones from newly opened quarries, or new strata of old quarries must be tested and steadily observed. The constructions, to which different materials are combined, must be considered in connection with the magnitude and action of the opposed forces, and the best conditions for using the obtained factors must be determined. The practicing architects cannot attempt to perform such labor in order to obtain needed information. The quarry and other material men need likewise facilities for obtaining reliable tests of newly opened deposits of raw materials, as guides for the best methods of producing and manufacturing them. All these data, experimentally determined, form the basis of the judicious use of the building materials.

In our case, a central head station ought to be founded by the federal government as a nucleus for harmonious methods and guidance of local institutions to be maintained by states or large central cities, east, west, north and south. This central station to be under the lead of professional specialists of highest standing so as to insure at the outstart the confidence of authorities and citizens in the straightforwardness of the tests and experiments. Liberally fitted out with apparatus and laboratory accommodations, the technical expert, physicist, and chemist are to promote each other's ends by mutual support, and, at stated intervals, by consultations with practitioners, called in for that purpose.

Besides attending to the tasks delineated above, the officials of the station are generally to determine according to a moderate scale of rates, the quality of materials for interested parties from their uniform points of view, and in case of litigations may be called to give opinions or make decisions of weight. To protect the interest of inventors or other private parties, the officials of the station are to be sworn to keep such orders private, unless the interested parties give their assent to publicity, when they may be published in the annual reports of the station, if of sufficient public interest.

Strength and properties of quarried stones, flagging, burned and unburned artificial stones, cements, limes, plaster of paris, builders' felts, asbestos fabrics, and other fireproof materials, pipes, wire ropes for elevators, wrought and cast iron columns and beams, corrugated metal ⅞ strength of brickwork, masonry and joints, stability of brick and stone piers, are among the objects within the range of the station. Tests on the lasting qualities of paper and ink for public documents and similar work may come in as incidentals.

Based on the initiative of the Institute Statistique of France, improved central stations, with branches in large cities, are in successful operation in Switzerland, Germany, Austria, Russia, etc. Prof. Tetmeyer in Eurich, Dr. Boehme and Martens in Berlin, Prof. Bauschinger in Munich, and others here have already made their mark in developing the resources of their countries and in advancing sound knowledge of universal importance. It is for the proposed station to scan the vast field, add to the stock of original experiments with there sources available in this country, and bring and keep results in best shape for use in practice.

It is essential to arrive at recognized uniform classifications, under which systematical gradations of the different groups of building material are to be arranged according to their most important properties, and to establish binding rules for tests of quality and precise conditions for the delivery of materials.

The testing station in Berlin is equipped for tests of material in hot, cold, dry, wet or changeable state. It owns hydraulic presses with varied capacities up to 320,000 pounds, and facilities for inserting test pieces from the minutest sizes to large sized columns and piers of brickwork, masonry, etc.

There are accommodations for determining specific gravity, porosity and hygroscopicity.

Machines based on combined leverage systems for tests of tensile, compressive, transverse, sheering and torsional strength.

Machines for testing materials under often repeated strains.

Atwood's machine for testing resistance to live forces.

Presses for testing pipes exposed to internal pressure up to 500 pounds per square inch.

Machines for determining the abrasion of paving materials by wear.

Apparatus for microscopic tests and photography.

Apparatus for analyses of organic and unorganic substances, fuels, oils, etc.

The European institutions are due to the initiative of the national societies of architects and engineers. It is suggested that the American Institute of Architects ask the coöperation of the American Society of Civil Engineers, and, perhaps, also, the Society of Mechanical Engineers, in memorializing and prompting congress on this important subject.

Respectfully submitted,
GLENN BROWN,
Secretary W. C. A. I. A.

Secretary Bloor: I move that this be referred to the Board of Trustees for investigation and promotion.

That motion was put and carried.

Mr. Frederick, chairman of the committee, moved that the report of the special committee on education and the report of the committee on remaining reports be received and printed in the proceedings of the convention, their provisions and recommendations being placed in the hands of the trustees for consideration and action.

Secretary Bloor: I move that Professor Ware's paper be added to that and included in this report, and whatever the committee recommend for this part of the report be adopted for that part of the report presented by Professor Ware.

There being no objection offered to this, Vice President Kendall so directed.

The report of the special committee to provide improved methods in the architectural service of the federal government was then read and accepted.

The report of the committee on board of trustees and chapter reports was then read by Secretary Bloor, as follows:

REPORT OF SPECIAL COMMITTEE FOR THE CONSIDERATION OF THE REPORTS OF THE BOARD OF TRUSTEES AND CHAPTERS.

Mr. President and Gentlemen,—Your committee, to whom was referred the report of the board, has carefully considered the same and report that the thanks of the Institute are due to the members of the board for the comprehensive report submitted by them, and would respectfully recommend:

1. That the report as read before the committee be adopted, placed on file and printed with the records of the convention.

2. That inasmuch as the board calls the attention of the convention to its financial condition, resulting from the reduced and therefore inadequate dues, your committee would respectfully recommend that the initiation fee of the fellows be increased to $25, the annual dues of fellows be increased to $20 and that of associate members to $10.

3. In consideration of the constantly increasing work of the secretary, your committee would respectfully recommend that the secretary of the American Institute of Architects be paid a salary of $1,500 per annum, together with such traveling expenses as the board of trustees may deem proper.

4. Concerning the various chapter reports referred to your committee, we would respectfully submit the following:

In regard to the report of the Baltimore Chapter, your committee would suggest that special efforts be made to increase its membership, and to embrace, if possible, all eligible practicing architects of that city.

The reports of the Boston, Chicago, Cincinnati, Indianapolis, New York, Philadelphia, Rhode Island, St. Louis and Washington chapters show them in the main to be in a flourishing condition, and recommend that they be accepted and printed in the proceedings of the convention.

It is the sense of this committee that in the majority of cases more frequent meetings, well attended, would largely increase the local and general interest in the profession, and we especially recommend that individual efforts in this direction be made by the members of the various chapters.

Your committee regret the absence of reports from some of the chapters, and respectfully suggest that some action be taken making it obligatory upon the secretaries of the

various chapters to forward their reports to the secretary of the Institute at least thirty days before the annual convention.

We find appended to the report of the Washington Chapter a memorial on the establishment of a central testing station for building materials in the United States, which we deem of special interest to the profession, and recommend that it be read before the convention.

GEO. A. FREDERICK,
WARREN R. BRIGGS,
W. W. CARLIN.

On motion, the report was accepted.

Report of committee on permanent home for the institute was received and the committee continued.

Vice-President Kendall then read the report of the committee on indemnification of Mr. Bloor. The report was accepted, and Mr. Holly continued as chairman of the Bloor Indemnification Committee.

The paper of Mr. Cluss, on "Mortars and Concretes of Antiquity and Modern Times," was ordered printed and specially distributed among the members of the Institute. (Printed on page 35.)

Mr. Gibson stated he would prefer that his own paper be not read, and moved that the remaining papers be accepted as read and ordered printed. (Printed on page 32.)

The motion was put and carried.

Mr. Frederick: I think the great misfortune of existing building laws is in some respects being very lax, and in other respects too severe, and I think if a building law could be devised for the various localities that was liberal and simple and concise, it would be of advantage to the communities, and it was with a view of calling attention to the various points which should be considered in framing such a law that the paper I prepared was written and submitted.

The paper was accepted and ordered printed. (Printed on page 38.)

Mr. Gibson: I think Mr. Frederick and myself have entered upon the same question to some extent. I am going to ask, therefore, if these papers will be printed together or separate? Will they be printed in the report of the proceedings?

Vice-President Kendall: I have no doubt we shall have them in all reports of the convention which pretend to be complete.

Secretary Bloor: I offer the following resolution:

Resolved, That the thanks of this convention are eminently due to the Western New York State Association of Architects for their exceedingly fraternal and refined hospitalities to the American Institute of Architects, and that the authorities of the Buffalo Library Building be included in this vote for the use of the accommodations they have extended us.

Mr. Carlin: I would like to make one correction in the wording of that resolution, it should be the Buffalo architects, instead of the Western New York State Association.

Secretary Bloor: I accept the amendment.

The motion was carried by a rising vote.

Mr. Preston: The question of the payment for such work, although it is mentioned in the by laws of the Institute, it seems has never received the proper attention and discussion or expression of opinion on the part of the Institute, and it has never been enunciated with the strength and directness and put in the form it should be. I refer to the employment of a clerk of the works. I think there ought to be a certain amount of discussion at this convention so another year will not be lost before it is brought before the public. I would suggest that something of this sort should be given forth from the Institute of Architects as voicing the propriety and desirability of the employing of a clerk of works, as to his payment, and as to the value of his services:

The American Institute of Architects recognize as proper and desirable the employment of the clerk of works in the erection of all buildings of importance, as a means of obtaining the best results. He should be paid by the owner, but should be under the direction and control of the architect. The architect's supervision of and responsibility for the work should be in all cases insisted upon as vital to the best interests of the owner, but such constant oversight as can be exercised by a competent clerk of the works is an invaluable adjunct to aid the labors of the architect in securing uniform, good, honest work.

Mr. Preston: In making this suggestion it seemed to me that I was not bringing forward any new ideas or instituting any new practice, but simply voicing, as a concise statement, the law, the recognized rule of all good members of the Institute in the matter of public works, but which is not accessible, that we can't refer to, that we can't take out and hand to a client to aid in our discussion of the matter with him, and to say to him, that this is not simply our individual opinion, but what is recognized as desirable and proper by the best minds and practitioners in the country. This is simply a collection of two or three things which are scattered, perhaps, in the by-laws of the Institute, and others which are well-known and recognized, but this is putting them in a way where they can be brought before the public, and where they will be accessible.

Secretary Bloor: I would like to remind you that the Institute has already, in its by-laws, practically given its opinion on the importance of a clerk of the works; that is to say, it is printed with the by-laws; it is a section of the schedule of charges for the professional practice of an architect. I simply remind the Institute that this has been considered before. It reads as follows:

On buildings where it is deemed necessary to employ a clerk of the works, the remuneration of said clerk is to be paid by the owner or owners, in addition to any commission or fees due the architect. The election or dismissal of the clerk of the works is to be subject to the approval of the architect.

Mr. Preston: I do not think this quite covers the case I desire to cover in my statement. This simply says where it is deemed necessary to employ a clerk of the works. I want to go further than that, and say it is necessary in all buildings to have a clerk of the works, and that he should be employed, and that his services are valuable, and that it is for the best interests of the owner to have such a clerk of the works.

Mr. Preston's resolution was discussed, and amended by Mr. Gibson, to include a committee to report further upon his suggestion, and carried unanimously.

President Kendall: Mr. Preston, Mr. Gibson and Mr. Adler are appointed as a committee to consider that subject and report. I nominate Mr. Gibson as chairman of the committee.

Upon motion, the convention then adjourned *sine die*.

CONVENTION NOTES.

AN excursion to Niagara Falls, and a drive about the city parks, etc., over the forty odd miles of asphalt, were features of the entertainment offered the visitors by the Buffalo architects. They were equally participated in and equally enjoyed by every visitor.

MESSRS. CUTTING & DELANEY, the well-known furniture and interior finishing firm of Buffalo, kindly placed upon the table at the convention headquarters an original copy of Chippendale's plates, and also a portfolio of colored plates of furniture originally owned by Fernando Ward. They were examined with much pleasure and interest by the architects.

ON the evening of the 16th instant, the Executive Committee of the Western New York State Association, consisting of J. G. Cutler, W. W. Carlin, J. H. Pierce, L. P. Rodgers and C. E. Colton, gave a "round-table" dinner to invited guests. These were President Sidney Smith, of the Western Association; D. Adler, John W. Root; Richard M. Hunt, president of the American Institute; A. J. Bloor, secretary of the American Institute; Frank Houghton, editor of the *American Builder*, and R. C. McLean, editor of THE INLAND ARCHITECT.

A PLEASANT feature of the convention was the attendance of a number of ladies. True, they did not attend the sessions, but in the rides and excursions which made a feature of the occasion their presence was most agreeable. There were present Mrs. Colton, of Syracuse; Mrs. Barber, of Syracuse; Mrs. Eichhorn and daughter, of Orange, New Jersey, and last but not least Mrs. Frederick and Miss Katie Frederick, of Baltimore, and the Misses Cluss, of Washington, D. C. It seems to be an unspoken axiom of a convention that that architect who brings his wife is blest, but he who also brings his daughter is doubly blest.

THE banquet at the Niagara Hotel was a most enjoyable affair, about fifty guests being present. The hotel, built by Architects Green & Wicks, of Buffalo, is one of the finest west of New York, and, if anything, superior to the Stillman House, at Cleveland. The menu was well chosen, and the absence of a formal programme made the after-dinner speeches short, pithy, and in some cases brilliant. The place of honor was occupied by the Hon. E. C. Sprague, of Buffalo, and his remarks as toast-master were repeatedly applauded. He spoke upon the weather, and his observations upon this novel subject were somewhat different than those found in the records of the signal service. Mr. Kendall's remarks were in his usually elegant and scholarly style, and were as the sauterne of the feast to the amontillado of Mr. Carlin's effort which followed. Mr. Carlin confined his remarks to the past, present and future of the Western New York State Association. They were bright, terse and prophetic. His was decidedly the speech of the evening. Mr. Sidney Smith followed, outlining the history and policy of the Western Association of Architects. Among a number of others called upon, the speeches of Messrs. Stone, Preston, Bloor, Littell, Cluss and Moser were most noted. The banquet was pronounced a decided success. The only regret expressed was in the unavoidable absence of Messrs. Adler, Hunt and Cutler.

THE enterprise of several leading building material and appliance concerns in placing exhibits of their wares where they could be readily inspected was generally commended. These consisted of an exhibit of some fine samples of Gatelawbridge Scotch red freestone; Petros, Kentucky, white and gray, and Bedford buff and blue oolitic limestones, by George W. White, of New York. The color and texture of the Gatelawbridge stone is superb, and the excellence of the other stones are too well known to require comment. C. C. Sutherland had an exhibit of electric motors in operation, and other electric appliances. He is general agent for the Brush Electric Company, located at Cleveland, Ohio. Theo. M. Baker, representing Merchant & Co., of Philadelphia, made a practical exhibit of that firm's brands of tin. It was a general comment that the persistent efforts made by Merchant & Co. to guarantee the quality of their goods was most commendable, and worthy of the recognition of the architectural profession as well as the public, who were so well protected against poor material by their method of stamping each sheet of tin, and branding the guaranteed weight of each box. Mr. Baker made a good impression upon those who called upon him. The Chicago Hardware Manufacturing Company was represented by a superb line of hardware, and their genial eastern agent, Mr. George J. Wells. "Everybody knows the Niles Lock," was the comment of his visitors, but he had sufficient novelties to show to make up for any lack of interest in that direction. The Champion Spring Hinge was examined with considerable interest. It was, however, noted that few seemed to know of the Chicago Hardware Manufacturing Company as a large concern, or even as the makers of the Niles Mortice Locks. Anyone receiving a call from Mr. Wells, however, finds him a gentleman whom they are glad to meet again and often. There is one gentleman who appears at every convention, and who has perhaps a more general acquaintance and friendship among the architects of the United States than any in the material line. This is Robert W. Brown, representing the well-known house of John A. Roebling's Sons Company, manufacturers of wire lathing, etc. He always displays a full line of samples, is always ready to show them, and is an indefatigable worker for the interests of his house. As his goods are standard and his company genial, he is always welcomed as one of the fraternity.

Our Illustrations.

Grace Church tower, Kansas City, Mo., A. Van Brunt, architect.

Main entrance of Y. M. C. A. building, Omaha, Neb.; Mendelssohn, Fisher & Laurie, architects.

Reredos, executed for St. Paul's Church, Evansville, Ind. This was carried out in oak, elaborately carved, with decorative panels against gold backgrounds on either side extending up beyond the base of the window. The decorations were executed by Mr. F. S. Lamb, pupil of Le Febvre and Boulanger, Paris.

Comments on the Standard Contract.

THE necessity for a good form of contract between owners and contractors is almost daily illustrated, and it is very fortunate that the standard form recently agreed upon by the architectural associations and building trades, is at last before the public. It is quite impossible for a lawyer unfamiliar with the details of building operations to draft a contract that will protect both parties to such contract, while the expense of employing an attorney for this purpose is often excessive. The Minneapolis Court House Commission started their active building work with a dispute, growing out of the first contract made, and were obliged to refer the matter to an attorney. The use of the standard contract would have avoided this trouble, for the contract is specific on the point at issue. The judges of our courts will, no doubt, soon recognize this contract as a fair interpretation of the relations between owner and builder, when no specific contract exists, or in disputes over obscure points in written contracts. Then the standard contract may be considered as a legal form, and one that is safe for any person to use without paying an attorney's fee. One of our exchanges is very much displeased because the contract was copyrighted, and its sale put into the hands of a firm to whom will go all profit arising out of its sale. As this exchange takes occasion to criticise every act of this firm, its present condemnation is somewhat tempered, at least to the firm, by this exchange's own jealousy.—*Northwestern Builder, Decorator and Furnisher.*

We notice in some of our contemporaries serious objections to the action of the joint committee on uniform copyrighting and giving the right to print and furnish the blanks to any one firm. A Chicago journal ventilates its views as follows: "It is to be presumed that this uniform contract has been formulated for the purpose of doing the greatest amount of good for the greatest number — that the labors of these committees jointly representing the architectural profession and the building trades has been for their general benefit and not for the financial gain or business of anyone. That it was a wise provision to copyright the contract to prevent any change or interpolation is not to be disputed; but to make use of the advantage of a copyright which has the prestige of a patronage of three national associations, and to 'farm out' for a term of five years to any single firm of publishers the sole right to publish this document, the joint property of the three organizations, is a usurpation of authority, illegal and to be condemned. * * * So long as the contract shall be printed according to the original copyrighted copy, authority should be given to any printer to produce it." The main object to be attained by the appointment of the committees from the three associations was the formulation of a contract acceptable to each of the associations, and which would be valuable through the recognition given it by them. If, as the contemporary demands, permission be given to every printer in the country to produce it, what security have we that changes and interpolations may not be made until the original identity of the contract is lost among the various other forms which will be produced, and all claiming to have the official recognition of the three national associations, and placing the building trades back into the condition which made the adoption of a uniform contract a necessity. There would be nothing to prevent unscrupulous contractors or architects from having blanks printed to conform to their own dishonest methods. The joint committee evidently foresaw the complications which would arise if the publication of the contract be given out to Tom, Dick and Harry, and gave it into the hands of the Inland Publishing Company, whose imprint upon the blank will be a guarantee of its genuineness.—*Northwestern Architect and Improvement Record.*

EXTRACT FROM THE REPORT OF COMMITTEE ON UNIFORM CONTRACTS.

* * * It was then (after final revision) determined by the joint committee that the best way to secure the integrity of the text, and to prevent alteration (except in writing), was to have it copyrighted; also, that after having fixed a schedule of prices for its sale, including therein a royalty payable to the committee, and amounting to a sufficient sum to defray the committee's expenses, its publication should be intrusted to a printing establishment of sufficient capacity and energy to supply the form to the profession and the public, and at the same time give it the requisite amount of advertising.

It was not supposed possible that the committee could control its text in any other way than by making a contract with its publisher, in the form of a license, which should carry a penalty of forfeiture for any unauthorized alteration of any of its clauses, and simply impossible to so control it, if the right of publication should be made general to the printers of the country, or to any considerable number of them.

The offer of a printing house in Chicago, well known as publishers of an architectural journal, was considered as filling all the conditions required, and being favored by a majority of the committee, it was accepted, and the blanks are now being supplied by them at the prices agreed upon. As this action has been somewhat criticised, it is due to the committee to be permitted to make this explanation, and for them to state that they believe it to be the best that could have been made under the circumstances.

In regard to the value of the form itself, the committee are gratified to learn that it is being adopted by many of the most influential members of the profession and firms of architects in the country, and is considered as essentially impartial and fair for the interests of both the owners of buildings and the contractors for their erection. Although there is some difference of opinion as to the advisability of including in it some few of its phrases, it is still thought to be upon the whole a useful form, and one that will serve the needs of both architects and builders. As to the latter, it may be said that it will make their estimating much more simple and satisfactory if it should become a standard form, and at the same time contribute to a better understanding between all parties concerned. * * *

Respectfully submitted,

O. P. HATFIELD,
ALFRED STONE,
J. H. WINDRIM,
Committee on Uniform Contracts, A. I. A.

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